Textile World
DECEMBER, 1959
A McGRAW-HILL PUBLICATION

LIGHTWEIGHT MEN'S-WEAR FABRICS

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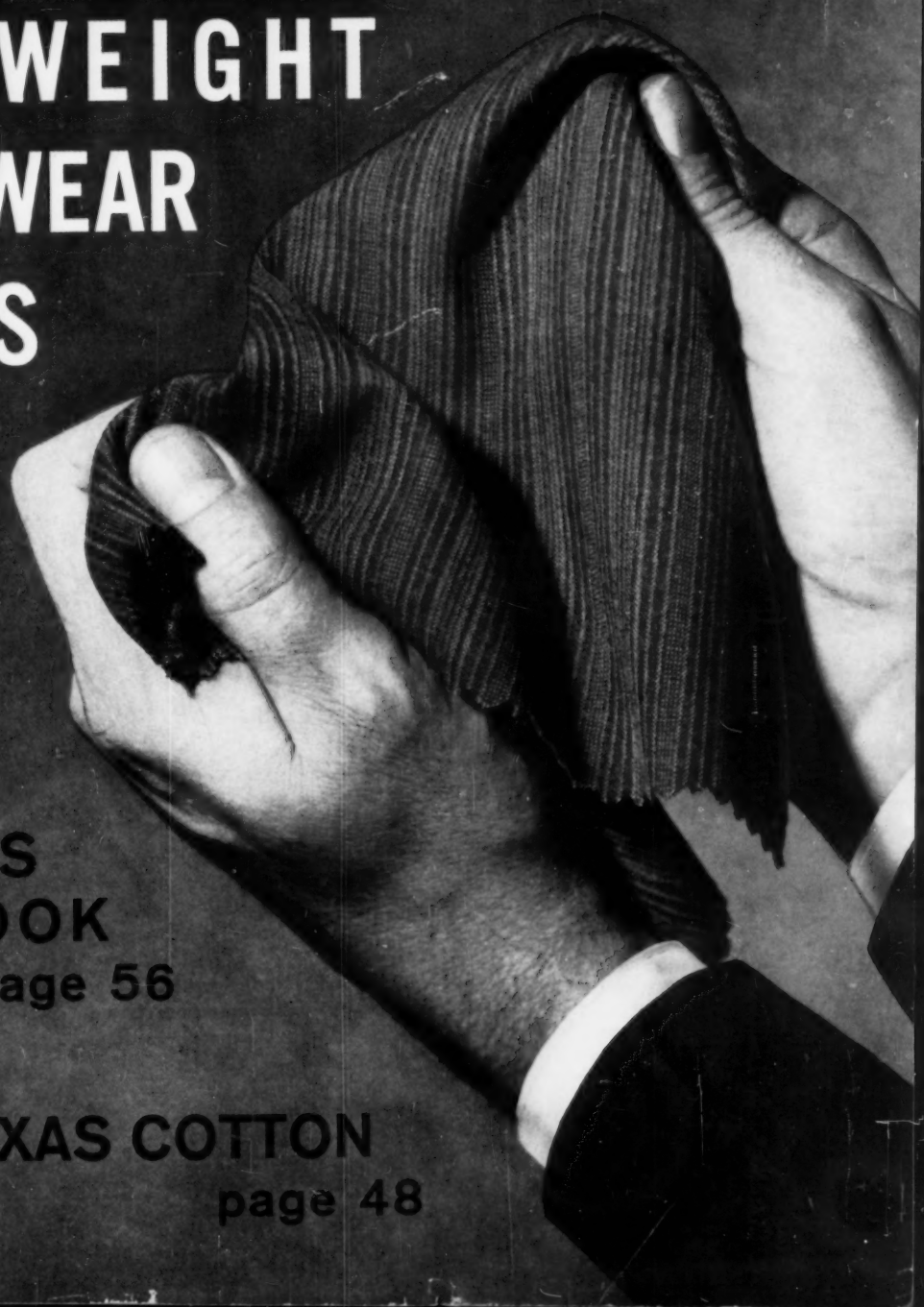

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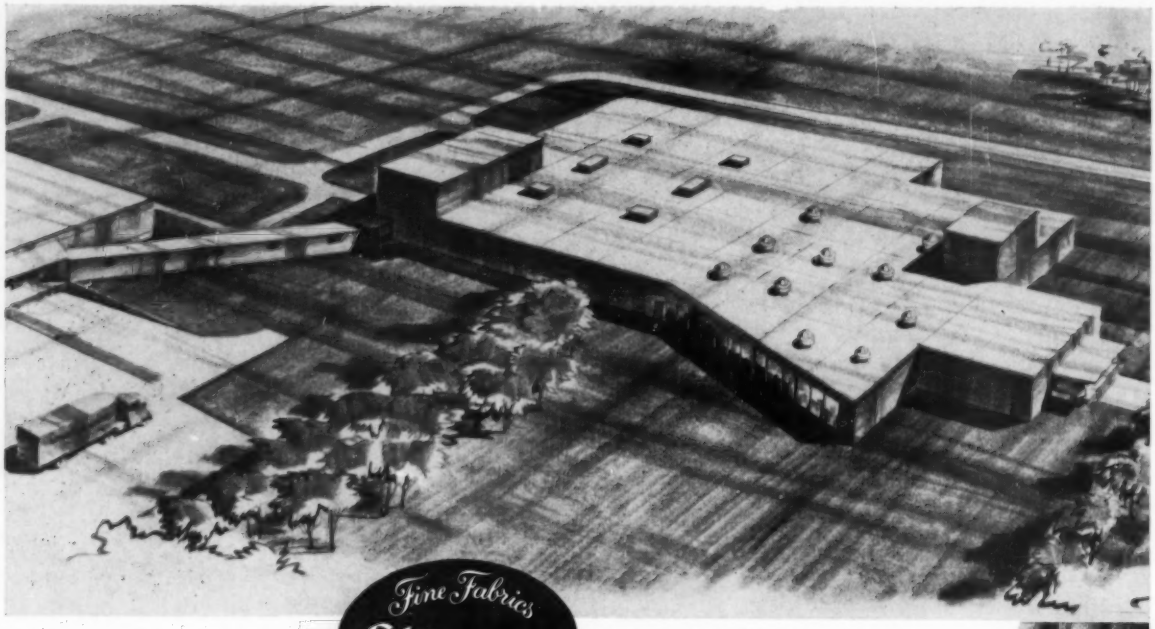

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ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

This Month in TEXTILE WORLD December, 1959

Volume 109, No. 12

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TEXTILE BUSINESS

Textile World

DECEMBER • 1959

Mill Production— Warning Flags Flying

Warnings were rife last month that mill production has now moved into its peak for the present cyclical rise.

- The volume of finished goods has leveled off (see p. 47).
- The critical mill inventories-to-sales ratio is rising.
- Mills are switching from goods that have already slowed down to the few constructions still in strong demand.
- Mill sales have dipped back below the $15-billion annual rate reached last May and maintained for five months.

●

Evidence of a peak now in the making is clear on the TEXTILE WORLD Index chart on p. 10.

Final official figures caused a downward revision of the September and October points to give a sidewise movement from June through October ranging between 116 and 119.

The usual production pattern is a strong comeback after the July holidays and the opening of the fall season. This year, there was no bounce in the comeback. Although production in that period, and since then, was at a high level, the weakness of the comeback is significant. Indications are that the steam has gone out of the production rise and a downturn is imminent.

The sharp climb of the estimated portion of the Index line (the broken line at the end) is based on preliminary figures and is likely to be revised downward when final figures are available.

●

The mill-margins chart maintained by TEXTILE WORLD, which accurately signaled the upturn of business in May 1958 and has closely coincided with all of the last seven major turning points in textile business, is all but certain to turn down early next year.

The chart is based on a rate-of-change ratio, and turning points come when the rate of increase or decrease changes.

The price of cotton started down early last year, and the price of cloth moved up. Either of these changes improves margins (the difference in the two price levels). When both factors are moving in mills' favor, the rate of improvement is fast. If either slows down, the rate of improvement slows down and the direction of the chart line changes.

Cloth prices will not advance early next year fast enough to compensate for the drop in cotton this year. So a decline in the margins chart is all but inevitable.

Ever since World War II, that has signaled a change of direction in textile business.

●

How far the dip will go is not certain, but best estimates are that a decline of the order of 5% to 8% is likely to occur between the peak this fall and next July.

That would take the TEXTILE WORLD Index back down to the area of 109 to 113, about on a level with production in the September 1958-March 1959 period.

A dip to that level, with a normal comeback after July 1960, would make the low of 1960 about equal to the highs of 1956,

Burlington's Net Profit Takes a Big Jump

Burlington Industries reported net profit of $27,643,000 after taxes for the fiscal year ended Oct. 3, compared to $11,687,000 in the 1958 fiscal year. That's an increase of just under 127%.

Sales amounted to $805,450,000 in the 1959 fiscal year, compared to $651,461,000, an increase of a little more than 23%.

Burlington's income tax load for fiscal 1959 amounted to $29,810,000. In fiscal 1958, it amounted to $13,844,000.

Roxbury Carpet Co. Ups Sales and Profits

Roxbury Carpet Co.'s sales for the first nine months of 1959 were up 4% and net profit up 2% over the same period of 1958.

Sales were $14,545,953, compared to $13,957,564 in the first nine months of 1958.

Net profit after taxes was $900,585, compared to $885,507 in the 1958 period.

Earnings per share of common stock was $1.70 in 1959, compared to $1.67 in 1958.

Sales and Profits Up At Riegal Textile Corp.

Profit after taxes in the fiscal year ended Oct. 3 was up 157% at Riegel Textile Corp. on sales 20% above the previous year.

In the 1958 fiscal year, net profit after taxes was $702,851, amounting to 0.8% of sales of $80,968,752.

In 1959, profit was $1,819,000, amounting to 1.8% of sales of $97,350,000.

Net earnings per share of common stock rose from 62¢ in 1958 to $1.85 in fiscal 1959.

Dan River Mills Increases Profit

Dan River Mills had a 27% increase in profit after taxes for the three quarters ended Oct. 3 on sales 7% above the same period in 1958.

Profit in the three 1959 quarters was $3,994,483, amounting to 3.2% of sales of $124,983,039.

That compares with a profit of $3,- 1957, and 1958.

The most critical question of all is how sharp mills will be in avoiding a market glut.

Prices and profits can be maintained if mills will abstain from speculative production.

They will not be maintained in the face of sharply rising mill inventories.

Feast-and-Famine Cycles To Be Studied by Commerce

A special study of why the textile-manufacturing industry is subject to sharp ups and downs will be made by the Commerce Dept., officials announced early last month. If the causes can be found, ways to smooth out the cycles will be sought.

The present schedule is to have the analysis completed by the middle of 1960.

The study will be directed by the Textiles and Clothing Div. of the Business and Defense Services Administration, an agency of the Commerce Dept. It will be supervised by Dr. William H. Miernyk, who worked with Sen. John Pastore's senate subcommittee that investigated the textile industry and recommended the study.

All phases of the textile industry will be studied; and special attention will be given such factors as inventory controls, demand trends, style changes, and mill-management reaction to price levels and changes in volume of orders and inventories.

Department-Store Sales Up In Spite of Steel Strike

The steel strike has had little, if any, effect on textiles.

Department-store sales, a quick indicator of consumer purchases of textile goods, boomed right along all during the strike and at the middle of last month were still running 7% ahead of last year for the first 10½ months of the year.

For the last two months of the strike, September and October, sales averaged 5% ahead of the same period in 1958 and 8% ahead of the same months in 1957.

Of the 12 Federal Reserve Board districts, only one, Philadelphia, dipped under year-ago sales. For the four weeks ended Nov. 7, the Philadelphia district was 2% under the same period in 1958. But for the year, the district was still 4% ahead of 1958.

●

Sales in the other four districts hardest hit by the steel strike held up well in the face of layoffs spreading from lack of steel.

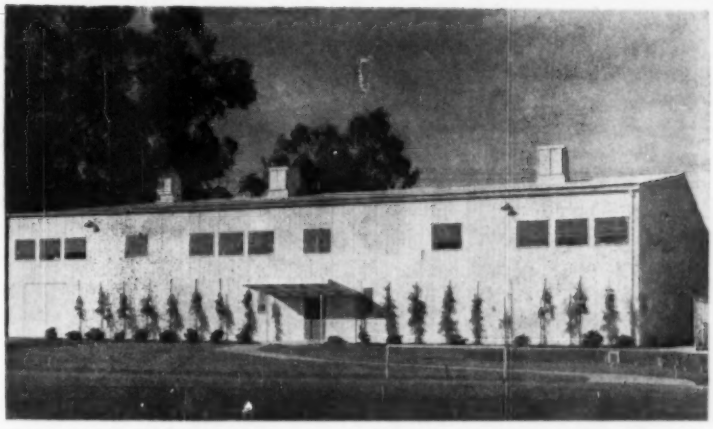
• **In the Chicago district,** department-store sales at the end of the Nov. 7 period were 9% ahead of last year, compared with 7% for the U. S. average. For the preceding four-weeks period, they were 11% ahead, compared to the U. S. four-weeks average of 7%.

• **The Cleveland district** was running on average for the year, up 7%, but was well ahead of average for the four-weeks period—10% up, compared to the 7% average.

• **The Minneapolis district** was weaker. Sales were 6% ahead of last year, 1% under the U. S. average of 7%. For the four-weeks period, sales were still weaker, up only 4%, compared to the 7% average.

• **The St. Louis district** was a little weak for the year, at 6% up, but strong for the four weeks, at 8% up, compared to the U. S. average of 7% up for both periods.

New Research Center To Study Wool Improvement



NEW RESEARCH CENTER . . . will study wool processing and treatment in an effort to improve the competitive position of wool.

SAN FRANCISCO—The U. S. Dept. of Agriculture dedicated its new $105,000 wool-processing laboratory at Albany, Calif., early last month.

A unit of the Western Utilization Research and Development Div. of USDA's Agricultural Research Service, the laboratory will be used for studies to improve the natural qualities of wool to make it more competitive with other materials, particularly man-made fibers.

With the new facilities, promising treatments developed by research can be adapted to commercial application.

The 18,000-sq.-ft. laboratory is equipped with modern machines where experimental lots of raw wool can be processed on the American worsted system to finished fabrics. It houses equipment for wool scouring and drying, yarn and fabric manufacture, and finishing. Scouring machines will handle 200 lbs. per hr.; other equipment is standard size.

Significant progress already has been made by the research group at Albany on the development of machine-washable wool fabrics and fabrics resistant to wear, soiling, and yellowing. Modified epoxy resins have been used successfully to treat fabrics to reduce shrinkage and to develop similar easy-care properties (see p. 68).

135,742, amounting to 2.7% of sales of $115,896,802 in the first three quarters of 1958.

Earnings per share of common stock rose from 67¢ in the 1958 period to 86¢ in the 1959 period.

Firth Carpet Co. Increases Sales, Profits

Firth Carpet Co. in the nine months ended Sept. 30 had a profit of $405,952 after taxes, equal to 72¢ per share of common stock, compared to a net loss of $252,436 in the same nine months of 1958.

Sales in the period were $17,370,614 this year, compared to $16,912,916 last year.

H. E. Wadley, president, reported that the spinning mill at Burnsville, N. C., is now operating at full capacity and will not require any further start-up expenses.

The jacquard wilton weaving mill at Laurens, S. C., is approaching capacity operation.

The two needle tufting production lines started up in September 1959 at the company's Auburn, N. Y., plant are now operating satisfactorily, but full capacity has not been reached yet.

The 1959 three-quarters profit was after payment of $570,050 start-up expenses in the two Southern plants, compared to start-up expenses in the 1958 period of $101,715.

Rayon and Acetate Sales Leveled Off in October

Rayon and acetate shipments leveled off in October, with shipments amounting to 85.8-million lbs., about the same as in September, according to figures published by the Textile Economics Bureau.

For the year, shipments were 915.6-million lbs., 14% ahead of the 801.2-million lbs. shipped in the first 10 months of 1958.

Some types of yarn were ahead of the previous month in October.

• **Acetate filament,** at 18.8-million lbs., was 7% ahead of September shipments; but for the 10 months, shipments of 189.9-million lbs. were the same as in 1958.

• **Rayon staple and tow,** at 26.7-million lbs., were 2% ahead of September; and 10-months shipments of 296.1-million lbs. were 13% ahead of the same period last year.

But rayon filament yarns dropped off in October from September.

• **High-tenacity viscose,** with shipments of 25.7-million lbs., was 4% down from September; but 10-months shipments of 277.7-million lbs. were

27% ahead of shipments in the same 10 months of 1958.

• **Filament "textile" rayon yarn,** with shipments of 14.6-million lbs. in October, was off 4½% from September; but 10-months shipments of 151.9-million lbs. were 17% above shipments in the first 10 months of last year.

U. S. Children's Clothing To Go to Russia

A U. S. clothing manufacturer now expects to do business with Russia.

Joseph Love, Inc., New York, is shipping 120 styles of children's garments to the Amtorg Trading Co., Moscow, official buying agency of Russia. The sample garments will be viewed by store representatives from all over the Soviet Union, and orders will be placed for the styles that appeal to the representatives.

Mill Failures Down Nearly One-Half

Mill failures this year are running only a little over half as many as last year, and liabilities are running at about two-thirds the rate of last year, according to a report by Dun & Bradstreet.

In the first 10 months of this year, there were only 49 failures, compared to 85 in the same period last year. Liabilities this year were $5,544,000, compared to $8,305,000 in the first 10 months of last year.

For the month of October alone, there were five failures, with liabilities of $181,000, compared to 10 failures, with liabilities of $224,000, in October, 1959.

WORLD BRIEFS . . .

India To Build New Rayon Plant

BOMBAY—A new rayon plant to cost $7,350,000 will be built on a 285-acre site near Surat (Bombay) as a joint undertaking by Indian and Japanese interests.

Three Japanese firms will build and equip the plant for a fee not to exceed $6,300,000 and will have an equity of $567,000 in the completed plant.

The new firm will be known as the Baroda Rayon Corp. and will be publicly owned. It will produce vis-

Textiles Now Have Help In World-Trade Battle

A turnabout in the U.S.'s position in world trade and tariffs was evident last month in international developments.

• **In Tokyo,** the GATT (General Agreement on Tariffs and Trade) meeting found a United States that was trying to bring its own foreign-trade balance to a more-reasonable basis instead of one with a big knife ready to cut the pie of its own markets.

• **Britain and France,** reportedly in response to U.S. pressure, eliminated many of the discriminations they have maintained against goods from the dollar area.

• **In Washington,** the Tariff Commission was given the assignment of finding out if new duties are needed on cotton-textile imports to protect the U.S.'s farm program for cotton.

●

These developments are a far cry from the brave talk of a few years ago that the textile industry is "expendable" for the sake of giving the U.S. textile market to foreign mills.

Throughout most of the 1954-58 business cycle, the textile industry was forced into the highly unpopular role of being the only major U.S. industry resisting unrestricted foreign imports. But 1958 brought the shocking truth home that the substance of the U.S. economy, including the country's gold supply, was seeping away abroad.

Since the report on trade balance and gold supply early this year, the world do-gooders and give-it-awayers have been strangely quiet. Giving the textile industry away was one thing, but giving the U.S. away was quite another.

The education seemed complete last month when the U.S. emerged with one eye on the 1960 elections and the other firmly set on retrieving a sound position in world trade.

The following reports from Tokyo, London, Paris, New York, and Washington give the picture of the U.S.'s new approach to trade and tariffs.

Tokyo

U. S. Policy Shift— Sell as Well as Buy

U.S. negotiators came to the GATT meeting with two major problems staring them in the face:

• How to stop the growing drain on America's gold reserve, and

• How to open up world trade and yet prevent industralized nations from being swamped with goods from low-wage countries.

They humbly admitted that they did not have the answer, but it was evident early in the negotiations that the American position was stiffer and more unyielding that it has been at any time in the life of GATT.

The negotiators said they were not bent on seeking a balance of export-import trade but to reduce the annual drain on the U.S. economy from the present $4-billion a year to about $2-billion. This could be accomplished, informed sources said, if other countries increased their imports from the U.S. by 10%.

But the going was not smooth. Nobody was trying to solve U.S. problems except the U.S. delegates.

- Japan wants more of the textile market in the U.S. and in British colonies.
- Canada, Australia, Denmark, and others want more of the U.S. agricultural-products market.
- Germany and the other nations in the European Common Market want to build a protective wall around the Market.

As usual, every country wants to increase its exports but decrease its imports; and everybody eyes the lush American market.

●

But the U.S. attitude was stiffened by the drain on the gold supply, which created a great deal of sober reappraisal of world policies this year, and the specter of next year's presidential election.

Before the meetings were over, it was abundantly clear that these two considerations outweighed current world politics. And it was clear from the start that in U.S. policy the American farmer still calls the shots.

The net over-all results of the meetings were that the U.S. market is no longer up for grabs. On the contrary, the U.S. is insisting that other countries do a little buying as well as selling.

London

Britain Eases Trade With Dollar Countries

Britain removed most of the remaining import restrictions on foreign products, eliminating dollar discrimination on all but a few products, last month.

Textile items freed from discrimination included textile and clothing, stockings, lace, and cashmere goods. Of these products, textiles and clothing had been restricted by Britain only if they originated from the dollar area.

The move is seen as a response to U.S. pressure aimed at reducing the U.S. trade deficit plus a show of strength of the sterling system and Britain's sound trade position.

Freeing of textiles and clothing brought immediate protests from British interests. Apparel and fashion associations feared the move would disrupt the current buying season. They wanted the restrictions removed in stages, if they had to be removed at all.

●

The trade liberalization undoubtedly will lead to significant shifts in the pattern of British trading as foreign manufacturers take advantage of the new status.

Industry generally doesn't expect a flood of fiercely competitive products, but in some limited areas British producers are likely to be pinched. The government stated that no "substantial addition" to the total import bill is expected.

Some sophisticated sources see the move as one of strength. They anticipate that it will have a nullifying effect on regional trading pacts such as the Common Market and the Outer Seven and also a steadying effect on threatening inflation in Britain.

cose filament, sulfuric acid, carbon disulfide, and sodium sulfate.

Rayon capacity will be 5-million lbs. a year, a significant addition to India's present total capacity of 43-million lbs. a year.

India's Planning Commission estimates the country's need of rayon by 1966 as 100-million lbs. annually.

●

U. S. To Finance Syrian Worsted Mill

WASHINGTON—The Development Loan Fund has agreed to lend several hundred thousand dollars to a privately owned firm in Syria to help establish a new worsted textile plant in Damascus.

The company is Modern Industries Corp.

The loan is the first made by the DLF to an organization in the United Arab Republic, which embraces Syria and Egypt.

The new plant will manufacture worsted, blended, and synthetic yarns and fabrics. Initially it will have 5,000 spindles, 55 looms, and dyeing and finishing equipment.

●

Pakistan Barters Cotton and Jute

KARACHI—Pakistan will get 100,000 tons of coal from Poland in exchange for cotton and jute of equivalent value in a barter deal amounting to about $3.2-million on each side.

This barter arrangement follows the pattern of deals already signed between Pakistan and other East European countries of the Communist bloc. Such deals have invariably taken the form of Pakistan trading her jute and cotton for the Communist countries' goods and finished products such as cement and coal.

Pakistan has been following the same pattern of trade with Communist China, with Chinese rice and other grains taking the place of capital-goods imports.

Communist countries have been consistently losing ground in Pakistan's market, and the volume of trade is now negligible. Even Russia, in spite of her rupee agreement made part of her trade treaty signed with Pakistan in Karachi in 1956, has not fared any better. Her two-year-old show room displaying a wide assortment of industrial machinery, agricultural implements, and small motor vehicles in the heart of Karachi's fashionable market attracts little business.

The Karachi show rooms of two other Communist countries, Czecho-

slovakia and Poland, have not increased the flow of trade between them and Pakistan.

One of the main deterrents to the expansion of trade between Communist countries and Pakistan has been the Communist's insistence on maintaining a balance of trade. Red salesmanship has been naive, crude, and blunt.

•

Russia's Cotton Crop Reaches an All-Time High

VIENNA—Preliminary figures on the 1959 Soviet cotton harvest indicate that an all-time high of 3,700,000 metric tons of unginned cotton was harvested through October. That's about 1-million metric tons more than was harvested by the same date last year, Tass news agency states.

The increasing yields of cotton demand a continuous expansion of processing capacity, Tass reports; and the small community of Kamyshin on the Volga river has been selected as the site for another plant.

The projected plant is to be one of the world's largest single units. Ultimate capacity, scheduled to be reached in 1964, will be 1,000,000 meters (3,280,830 ft.) of cotton cloth a day.

•

Italy's Mill Production Continues To Rise

MILAN—Italian cotton-yarn production in July totaled 20,580 metric tons, compared to 16,357 tons in June and 18,887 tons in July of last year.

During the first seven months of 1959, Italy produced 124,891 metric tons of cotton yarn, compared to 121,687 metric tons in the same period of 1958.

Italian cotton fabrics produced in July amounted to 15,889 metric tons, compared with 12,824 metric tons in June and 14,711 metric tons in July of 1958.

Production of cotton fabric during the first seven months of this year reached 97,006 metric tons, compared with 95,628 metric tons during the same period of 1958.

•

Yugoslav Mill Will Expand

MILAN—The Yugoslav textile mill Ljubisa Miodragovic will expand pro-

Paris

France Removes Quotas On U. S. Textile Goods

Quota restrictions on many goods from the United States, Canada, and countries in the Organization for European Economic Cooperation were lifted by France last month.

Among several hundred articles affected were textiles and clothing for men, women, and children.

The French action came in the wake of Britain's announcement that British markets are opening to a vast array of American and West European goods long barred under import quotas.

Presumably French imports will still be limited by the amount of foreign currency the government makes available.

New York

U. S. Textile Exporters Expect Increasing Business

Textile exporters hailed the easing of U. S.-exports restrictions by Britain and France last month as a move that is certain to increase their business.

Producers of cotton and man-made-fiber fabrics in the medium-price range find their best export markets in Western Europe. In these mass-produced lines, such as cotton prints, rayon suitings, and nylon sheers, U. S. mills are able to compete favorably in price in the European market.

In the first three quarters of this year, exports, mostly nylon sheers, to the following countries amounted to:

Switzerland, 8,117,000 (sq. yds.)

Belgium, 7,622,000 (sq. yds.)

Sweden, 3,393,000 (sq. yds.)

West Germany, 2,778,000 (sq. yds.)

Cotton prints are reported to be gaining favor in traditionally drab, colorless Britain; and the rate of export of these goods is expected to increase.

•

Wool-goods imports from Britain and France may increase in exchange for these countries opening their markets to U. S. textiles.

This year, Italy and Japan beat out Britain and France in the race for U. S. imports at 25% duty; and Britain and France requested special treatment.

Wool men fear wool-goods imports from these countries much less than the lower-price, voluminous imports possible from Italy and Japan. British and French goods are largely high-price, specialty fabrics that compete less with the big-volume medium- and low-price U. S. woolens and worsteds.

Washington

Eisenhower Asks Study Of Cotton-Textile Imports

Cotton-textile and cotton interests finally got some action last month on their appeal for imports curbs under Section 22 of the Agricultural Adjustment Act.

President Eisenhower asked the Tariff Commission early last month "to determine whether a fee equivalent to" the 8¢-a-lb. export subsidy on cotton should be charged on cotton-textile imports to protect the Dept. of Agriculture's "export program for cotton and cotton products."

The president's action resulted from an appeal in July by the National Cotton Council to Agriculture Secretary Benson just before the government's subsidy on export cotton rose from 6½¢ a lb. to 8¢ a lb.

In its appeal, the Council pointed out that cotton-textile imports are reducing the amount of U.S. cotton used by U.S. mills and thereby threatening the price-support program.

Eisenhower asked the Commission to complete its study as soon as practicable. The Commission has scheduled a public hearing for March 1, 1960, on the question.

Textile Mills Step Up Their Rate of Improvement

Capital spending by mills for new plant and equipment is expected to reach 19.1% above the amount spent in 1958.

From expenditures of $288-million in 1958, estimates of 1959 spending stood at $343-million in the annual survey made by the McGraw-Hill Economics Dept. just completed.

The 19.1% increase is seven times the percentage increase for All U.S. Manufacturing. All Manufacturing, pulled down sharply by iron and steel, nonferrous metals, and chemicals, increased only 2.7%.

Only four other U.S. industries showed a greater increase than textiles, and two of them are in the "Other" and "Miscellaneous" class. Among homogenous industries only two—the rubber and the stone, clay, and glass industries—increased more than textiles.

Percentage changes of expenditures for plant and equipment from 1958 by 15 industries were:

Iron and steel	−22.0%
Nonferrous metals	−31.9
Machinery	+ 3.8
Electrical Machinery	+ 3.9
Autos, trucks, and parts	+15.9
Transportation equipment (aircraft, ships, railroad)	− 1.9
Other metalworking	+21.7
Chemicals	−10.0
Paper and pulp	+ 6.0
Rubber	+32.8
Stone, clay, and glass	+35.6
Petroleum refining	+ 4.0
Food and beverages	+ 7.0
Textiles	**+19.1**
Miscellaneous mfg.	+20.1
All manufacturing	+ 2.7

duction from 1.3-million to 2.8-million square meters of cotton fabric and from 683,000 to 847,000 square meters of ready-to-wear apparel.

Plant expansion will cost 440-million dinars ($1.1-million) and bring the mill's yearly production value to 5-billion dinars ($12.5-million).

The expansion program was approved by the Yugoslav Bank of Investments.

•

British Mills Favor Cheaper Sudan Cotton

LONDON—It's now doubtful that cotton trading between Egypt and Britain will return to pre-Suez levels because Egyptian prices are too high and Sudan cotton is adequately filling the needs of mills, according to the Lancashire cotton delegation that returned from Cairo last month after talks with the Egyptian government.

The six-man delegation went to Cairo at the invitation of the Egyptian government to discuss ways of expanding British imports of that country's cotton.

The commission reported, "They are asking about 1¼ pence (12 pence = 14¢) more than we are paying for cotton from the Sudan, which largely replaced the Egyptian market after Suez."

•

DuPont Begins Building A New Dutch Plant

DORDRECHT—Construction began last month of DuPont's new Orlon acrylic-fiber plant in the Netherlands announced earlier this year.

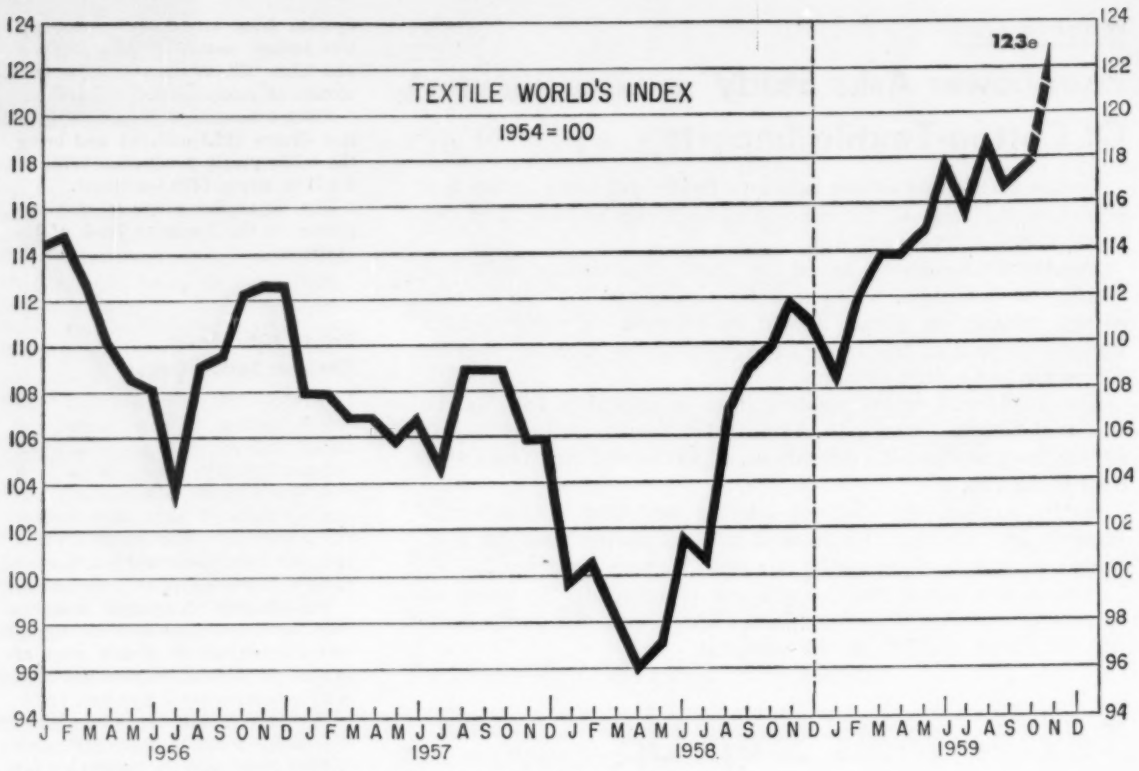
The plant will be called Du Pont de Nemours (Nederland) N. V. and will have an initial capacity of about 15-million lbs. of fiber a year. About 400 people will be employed in operating the plant.

•

German Girdles and Bras To U. S. and Canada

BONN—The German girdle manufacturer Triumpf Spiesshofer & Braun, in Neubach-Wuerttemberg, is setting up facilities for large-scale exports of girdles and bras to the U. S. and Canada. Sales offices have been opened in New York and Toronto, and another will be opened in Los Angeles.

The company employs about 10,000 workers in its plants in the south of Germany and exports to more than 60 countries.



Index of manhours worked in the textile industry adjusted for changes in productivity

Textile World's Monthly Indicators

	Latest Month	Previous Month	Year Ago
Textile World's Index (1954=100)	**123***	**118**	**112**
Employment (thousands) B.L.S.	976.6	983.2	954.7
Production Workers (thousands) B.L.S.	883.2	890.2	863.3
Weekly Earnings B.L.S.	64.24	63.28	60.80
Hourly Earnings B.L.S.	1.59	1.59	1.52
Weekly Hours Worked B.L.S.	40.4	39.8	40.1
Production Index (1947-49=100) F.R.B.	120	121	109
Wholesale Price Index (1947-49=100) B.L.S.	95.9	95.9	93.2
Manufacturers' Sales (million $) Commerce	1216**	1250	1027
Manufacturers' Inventories (million $) Commerce	2546**	2495	2499
Inventories-to-Sales Ratio	2.09	2.00	2.43
Exports (million $) Commerce	87.8**	64.8	78.2
Imports (million $) Commerce	106.4**	107.3	79.2
Stock Price Index (1941-43=10) Standard & Poor's	31.77	31.92	25.26
Failures (number) Dun & Bradstreet	5	5	10

National Economic Indicators

	Latest Month	Previous Month	Year Ago
Industrial Production (1947-49=100) F.R.B.	148	149	138
Consumer Price Index (1947-49=100) B.L.S.	125.2	124.8	123.7
Wholesale Price Index (1947-49=100) B.L.S.	119.2	119.7	119.0
Population (millions) Census	N.A.	175.1	172.2
Unemployment (millions) Census	3.3	3.2	3.8
Employment (millions) Census	66.8	66.3	65.3
Personal Income (billion $) Commerce	381.9	380.9	364.3

* Estimate for November. ** September. October is Latest Month in all other cases.

VIB

*Vacuum Impregnated Bobbin**

DRAPER CORPORATION

* *Patents Pending*

MORE THAN 3½ MILLION SPINDLES NOW EQUIPPED WITH ROBERTS HIGH DRAFT

ROBERTS SPINNING NEWS

PUBLISHED BY ROBERTS COMPANY SANFORD, NORTH CAROLINA

WM-2 SANFORD, NORTH CAROLINA, U. S. A. 1959

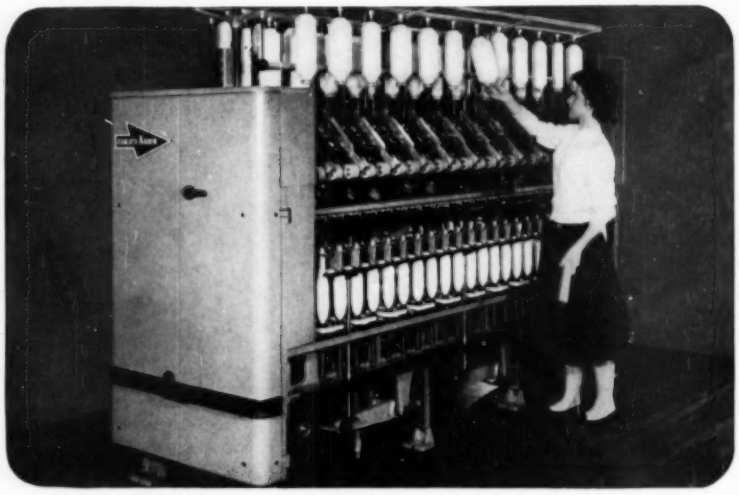
ARROW WM-2 LONG FIBER SPINNING FRAMES OFFER WIDEST YARN MAKING VERSATILITY

A dynamic program of new product design, advanced styling and aggressive merchandising is underway by all segments of the Textile Industry.

Knitting yarns of higher quality and greater interest are being called for in worsted, synthetics and blends. Finer weaving yarns up to 2 ply 80's are being called for and a great many blends are currently being explored. The longer fibers are in wide demand and the next few years should see a substantial boom in this field.

The demand for high bulk knitting yarns and the finer weaving yarns plus all of the newer fabric effects being created require fiber lengths from 3 to 8 inches long.

ARROW WM-2 frames are suitable for making yarns in any fiber length from 1½ to 8 inches. They provide great versatility in handling 100% synthetics, blends of synthetics, 100% worsteds and blends of worsted with synthetics in this range. Better quality yarns with greater evenness, bigger package sizes and higher production speeds are produced on ARROW frames.



- Spins yarn from any natural or synthetic fiber or any blend.
- PermaSet Drafting handles any fiber length from 1½ to 8 inches
- No roll setting changes needed at any time
- Great versatility for changing yarn numbers, twist, draft, ring size, and spindle speed
- Drafts as high as 24 on worsted, 60 on synthetic
- Produces yarn with better evenness and greater breaking strength
- Ball bearing top and bottom rolls eliminate all lubrication in drafting zone
- Almost ideal spinning conditions from delivery roll to spindle
- Runs at higher front roll, traveler and spindle speeds
- Reduces ends down by more than 50%
- Puts twice as much yarn on the bobbin as older frames
- 12-inch bobbins reduce winding costs
- Very rugged, most durable machine ever built for yarn spinning
- Frame is built in the wide-stance 36-inch width
- Uses ball bearings at every moving, turning or oscillating motion
- Substantially lowers electric power consumption
- AeroCreel for single or double roving
- Frame arranged for practical application of overhead cleaning and vacuum floor sweeping

Roberts ShortFlo System for Making Long Fiber Yarns

Roberts Company offers complete technical service in adapting its ShortFlo System for the production of long fiber yarns. This includes the complete yarn manufacturing process starting with tow converters, blending machines, pin drafting, roving frames, spinning frames, winders and twisters.

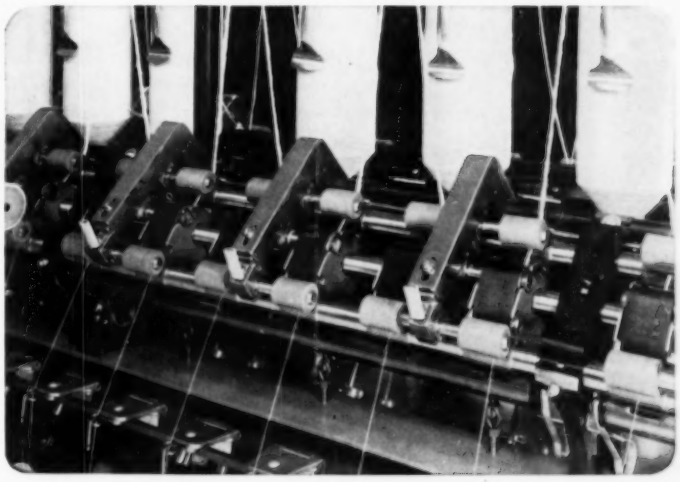
Where mills have existing equipment, full consideration is given to utilizing it whenever possible. Or, if a new long-fiber program is planned, all machinery can be specified, and the complete yarn organization set up.

The ShortFlo System for making long fiber yarns requires a minimum number of processes. Many doublings are provided to insure exceptionally good blending of fibers, improved evenness and better strength.

THE MOST SENSIBLE ANSWER TO GADGET-FREE TOP ROLL SUSPENSION

ROBERTS *PosiWate* SUSPENSION SYSTEM

PosiWate Ball Bearing Top Roll Suspension eliminates all cap bars and the need for top roll oiling. All three lines of top rolls have double-row ball bearings; heavier weighting can be handled when required. Weight distribution is positive. Hooks, short springs and other gadgets are not used. Roberts Ball Bearing Bottom Rolls with EvenGrip Fluting are also available.



A FEATURE OF

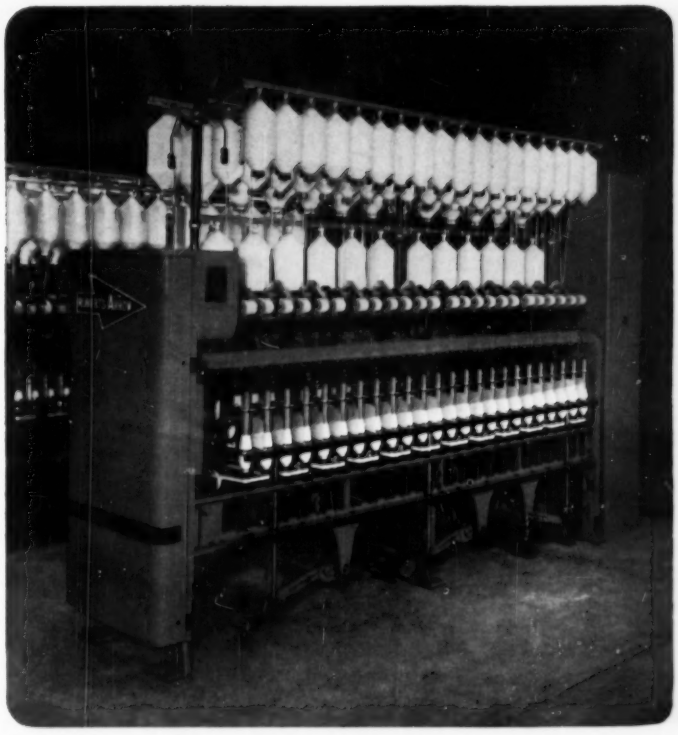
ROBERTS ARROW

MODEL M-1

and changeover modernization for any make of frame

ARROW M-1 SPINNING FRAMES

for cotton and for synthetics 1½ to 3¼ inches long



- PosiWate Top Roll Suspension
- UnaRing Balloon Control
- EvenGrip Fluted Bottom Rolls
- Roberts Supreme Ball Bearing Spindles
- Double-Apron High Draft System
- UnitVac Power-Suction Cleaning
- Roberts All-Ball-Bearing Head
- Unitized Sectional Frame
- AeroCreel with Latch-Type Bobbin Holders

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

THREAD CONES · YARNS · FABRICS · SUITINGS
WADDINGS · BLANKETS · BEDDING · CARPETING

Whatever your products, you can package for sales advantages with

THILCO "Brand Name" PROTECTIVE PAPERS

Overall decorated roll wrap

Don't worry about protection. Thilco TEXTILE Wraps for any specific requirement give you the very best. *But that's not all by any means!* Thilco papers can be colorfully PRINT-DECORATED to give you all the benefits of "Brand Name" packaging at all merchandising levels. And, you can get all this with its many other sales values *for just a few cents more* than the cost of plain, unidentified wrappings! Thilco TEXTILE Wraps run the gamut from lightweight, special treated tissues and krafts to heavy-duty protective wraps for transport and storage.

Decorated Waxsorb cone wrap

COMBINE PROTECTION WITH IDENTITY FOR THESE IMPORTANT SALES ADVANTAGES:—

- Provide brand name identity through entire distribution sequence
- Help trade-up product's quality
- Add colorful eye and buy appeal
- Increase prestige value
- Stimulate repeat orders
- Reduce labeling and packaging costs
- Simplify inventory control
- Eliminate "look-alike" competition
- Provide low cost "traveling" advertising

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Contains all popular grades of Thilco Textile wraps—write today.

THILCO
Functional Papers
FOR TEXTILES

OFFICES
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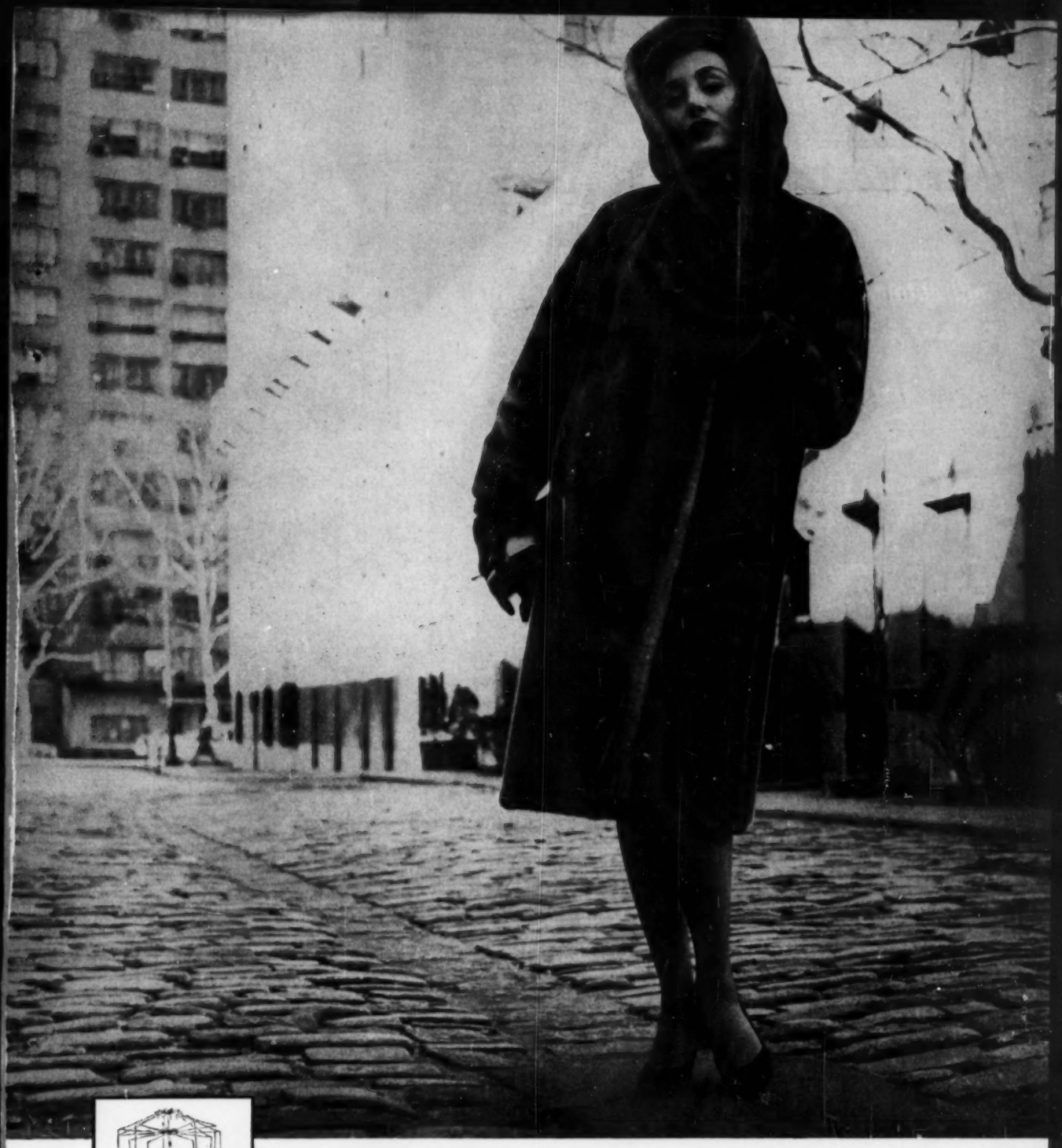
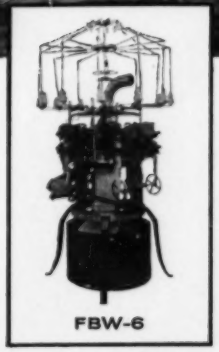
BOSTON
CHICAGO
DETROIT
CINCINNATI

Decorated protective fabric wrap

THILMANY PULP & PAPER CO. · KAUKAUNA · WISCONSIN





FBW-6

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"Elegant" . . . . . the only way to describe the luxurious coat fabrics produced on Wildman Jacquard "Hi-Pile" knitters. • *"Versatile"* best describes the capabilities of this unique machine. With a range of fabrics from glamorous outerwear to industrial coverings, the Wildman Jacquard "Hi-Pile" knitter is a sound investment. • For complete information write:

WILDMAN JACQUARD

Schlafhorst

SERVOLOOM AUTOCOPSER

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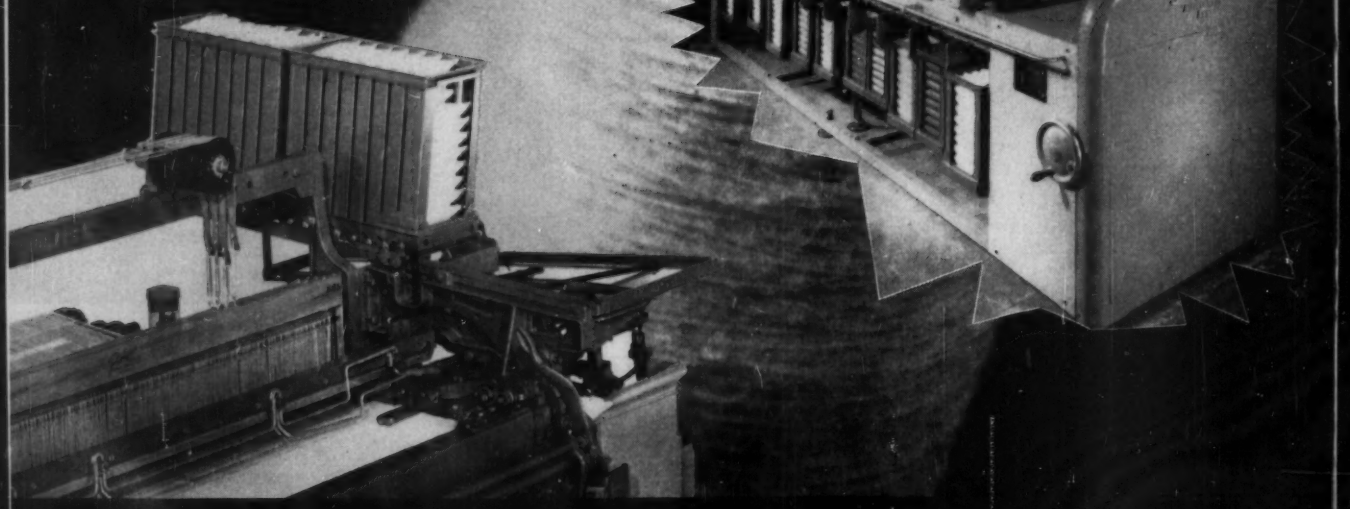
2. *Best ratings in* **CLOTH QUALITY** *through fewer and perfect transfers*
3. *Lowest over-all* **COST PER POUND** *in winding plus weaving*
4. *Fast* **RETURN** *on the* **INVESTMENT**
5. *Full* **FLEXIBILITY** *per loom and spindle*



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Sold and Serviced by **THE TERRELL MACHINE CO., INC.**

CHARLOTTE, N. C., U. S. A.

Agawam Dye Works, Inc., Lawrence, Mass., has bought Thies Dyeing Mills, Inc., West Warwick, R. I. Thies Dyeing Mills, Inc., will continue to be operated as a separate corporation. There will be no change in operating personnel.

Berkshire Knitting Mills, Inc., Andrews, N. C., is expanding its seamless-hosiery production with machinery bought from Wytheville Knitting Mills, Inc., Wytheville, Va.

Joseph Bancroft & Sons Co., Wilmington, Del., has announced plans for expanded operating facilities and an increase in activities of the Research, Quality Control, and Marketing Divs.

Burlington Yarn Co., Greensboro, N. C., has been formed as a new division of Burlington Industries, Inc. The new division will include manufacturing and sales operations for Burlington plants that produce man-made-fiber, cotton, blended, and specialty yarns for weaving, knitting, insulating and industrial end uses. It will also serve customers of Burlington Yarn Sales Co., which is being discontinued.

Calvine Cotton Mills, Inc., a subsidiary of Botany Industries, Inc., Charlotte, N. C., has bought two large buildings on the former Wamsutta Mills property, New Bedford, Mass. The buildings have about 450,000 sq. ft. of floor area. New equipment will be installed. The company expects to begin operations in the buildings about Jan. 1.

Clinchfield Mfg. Co., Marion, N. C., is putting combers in the No. 1 Mill. The plant now produces print cloths.

Charlottesville Woolen Mills, Inc., Charlottesville, Va., has started limited operations again. The plant was closed down in April. Kent Mfg. Co., Clifton Heights, Pa., bought the mill in August.

Corriher Mills Co., Inc., and Linn Mills Co., Landis, N. C., is building a $750,000 plant for Corlin Processing Co., a wholly owned subsidiary.

Danville Knitting Mills, Inc., Danville, Va., is planning a major expansion of its sock plant.

Dothan Hosiery Co., Dothan, Ala., is replacing some if its full-fashioned hosiery production with seamless hosiery.

Fieldcrest Mills, Inc., Spray, N. C., will open a multimillion-dollar plant to manufacture electric blankets in Smithfield, N. C., as part of a $9-million expansion program. The company has closed its St. Marys, Ohio, plant and will move all equipment and machinery to Draper and Spray, N. C., by the end of the year. The company expects to complete its expansion program by the middle of 1961.

Federal Silk Mills, Williamsport, Md., has been destroyed by fire.

Glenoit Mills, Inc., a subsidiary of Botany Mills, Inc., Janesville, Wis., is building a 102,000-sq.-ft. plant in Raleigh, N. C. The firm will employ 200 people.

P. H. Hanes Knitting Co., Winston-Salem, N. C., has started building its $1½-million plant in Galax, Va.

M. Lowenstein & Sons, Inc., New York, N. Y., will expand and modernize its Chiquola Mill, Honea Path, S. C., at a cost of $1-million.

Masurel Worsted Mills, Inc., Woonsocket, R. I., has added new Saco-Lowell spinning frames to double the capacity of its spinning room.

Merrimack Mfg. Co., Lowell, Mass., has been sold to Wanskuck Co. for $1,330,000. The Lowell plant has been idle for many months.

Micolas Cotton Mills, Inc., and **Opp Cotton Mills, Inc.,** Opp, Ala., have modified their manufacturing procedures. Fabric manufacturing is now diversified. Cotton and cotton-and-man-made-fiber blends are now being produced. Additional opening equipment has been installed in the Opp mill to permit metered feeding and blending of cotton and man-made fibers. In the Micolas mill, 38% of the looms have been widened to produce fabrics 45 to 50 ins. wide.

Puritan Looms, Inc., Philadelphia, Pa., has moved its combing and finishing operation to its Arel-Dillon Mfg. Co. plant, Dillon, S. C., leaving only offices in Philadelphia.

Quitman Knitting Mills, Inc., Quitman, Mass., has been formed to operate the Quitman Hosiery Mills plant that has been closed for some months.

Rochelle Park Velvet Co., Inc., Lodi, N. J., has ceased operations. A newly formed company, Rochelle Finishing Co., will occupy about 200,000 sq. ft. of the plant and will continue the napping and shearing division of Rochelle Park.

Seneca Knitting Mills, Inc., Seneca Falls, N. Y., has opened its new plant, which cost $1-million. The equipment cost another $1-million.

Southern Elastic Corp., Hickory, N. C., is building a new plant to replace its existing plant in Hickory. The new brick building will contain 20,000 sq. ft. of floor space. Completion is planned for Jan. 1.

J. P. Stevens & Co., Inc., New York, N. Y., will build a warehouse addition to its Cleveland plant, Shelby, N. C. The addition will add 25,000 sq. ft. to the plant.

Yate Bleachery Co., Flintstone, Ga., has been reorganized as a corporation. It will now be known as Yates Bleachery Co., Inc. Officers are E. W. Yates, president; A. E. Yates, Jr., vice president; and P. A. Yates, secretary and treasurer.

Yuma Woolen Mills, Inc., New York, N. Y., has been formed to produce casual and dressy worsteds and woolens. Principals are Martin Berman, president; Harold Ferbin, vice president in charge of sales; Andor Glattstein, vice president in charge of production; and Barbara Rosenberg, vice president in charge of styling.

CALENDAR

December

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Dec. 2

AATCC, Northern New England Section, Smith House, Cambridge, Mass., Dec. 4

AATCC, Rhode Island Section, annual meeting, Johnson's Hummocks Grille, Providence, R. I., Dec. 4

AATCC, Delaware Valley Section, Philadelphia, Pa., Dec. 4

AATCC, Western New England Section, Hartford, Conn., Dec. 4

American Society of Mechanical Engineers, Textile Engineering Session, Chalfonte-Haddon Hall, Atlantic City, N. J., Dec. 4

1960

January

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Jan. 6

AATCC, Northern New England Section, joint symposium with ASME Textile Engineering Div., Smith House, Cambridge, Mass., Jan. 15

Plant Maintenance & Engineering Show, Convention Hall, Philadelphia, Pa., Jan. 25 to 28

February

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Feb. 3

American Society for Quality Control, Textile Div., annual conference, Clemson House, Clemson, S. C., Feb. 18 & 19

March

American Society for Testing Materials, Committee D-13, spring meeting, Sheraton-Atlantic Hotel (formerly Sheraton-McAlpin Hotel), New York, N. Y., March 1 to 4

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., March 2

Fiber Society, spring meeting, Roosevelt Hotel, New Orleans, La., March 10 & 11

April

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., April 6

American Cotton Manufacturers Institute, annual meeting, Americana Hotel, Bal Harbour, Miami Beach, Fla., April 7 to 9

Alabama Textile Manufacturers Association, annual meeting, Buena Vista Hotel, Biloxi, Miss., April 20 to 22

National Association of Hosiery Manufacturers, annual meeting, Americana Hotel, Miami Beach, Fla., April 21 to 24

Textile Institute, annual general meeting, Midland Hotel, Manchester, England, April 22

Institute of Textile Technology, meeting of the Technical Advisory Committee and Board of Trustees, Charlottesville, Va., April 26 & 27

Phi Psi, annual convention, Hotel Roosevelt, New York, N. Y., April 28 to 30

Underwear Institute, annual meeting, Hotel Biltmore, New York, N. Y., April 29

May

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., May 4

Georgia Textile Manufacturers Association, anniversary meeting, Diplomat Hotel and Country Club, Hollywood, Fla., May 19 to 21

American Textile Machinery Exhibition, Atlantic City, N. J., May 23 to 27

11th Annual Cotton Research Clinic, Grove Park Inn, Asheville, N. C., May 31 to June 2

June

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., June 1

Southern Textile Association, annual convention, Grove Park Inn, Asheville, N. C., June 23 to 25

ASTM, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., June 26 to July 1

September

Combed Yarn Spinners Association, annual meeting, Greenbrier, White Sulphur Springs, W. Va., Sept. 7 & 8

Chemical Finishing Conference, sponsored by the National Cotton Council, Statler Hotel, Washington, D. C., Sept. 27 & 28

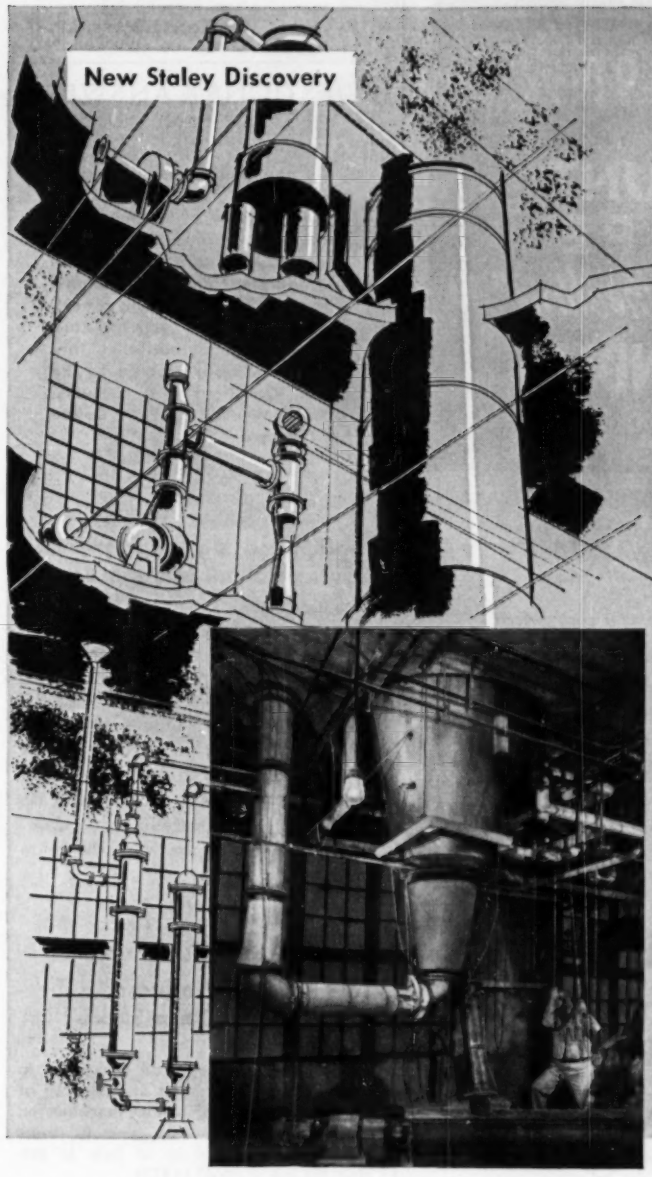
October

21st Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 3 to 7

Carded Yarn Association, annual meeting, Grove Park Inn, Asheville, N. C., Oct. 5 to 8

AATCC, national convention, Sheraton Hotel, Philadelphia, Pa., Oct. 6 to 8

American Society for Testing Materials, Committee D-13, fall meeting, Sheraton-Atlantic, New York, N. Y., Oct. 18 to 21



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OF UNSURPASSED UNIFORMITY

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GREATER DEPENDABILITY

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MINIMUM COLOR

Yes—you can always depend on Stadex Dextrins for the same fine results every time. From bag to bag, carload to carload, Stadex Dextrins give you a new high degree of uniformity never before possible in a dextrin.

Thanks to Staley's patented new "fluidizer" process that eliminates dextrinization variables, Stadex Dextrins give better adhesion . . . possess unsurpassed quality and dependability. And most important, Stadex Dextrins are "cleaner" . . . with new, lighter color and *no overcooked particles.*

Available in a wide range of viscosities in whites, canaries and British Gums, Stadex Dextrins are tailor-made to meet your most exacting requirements. Why not investigate the definite advantages Stadex Dextrins can bring to your operation. For further information, see your Staley Representative or write:

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Simplest Solution...

Wrinkles
Loss of width
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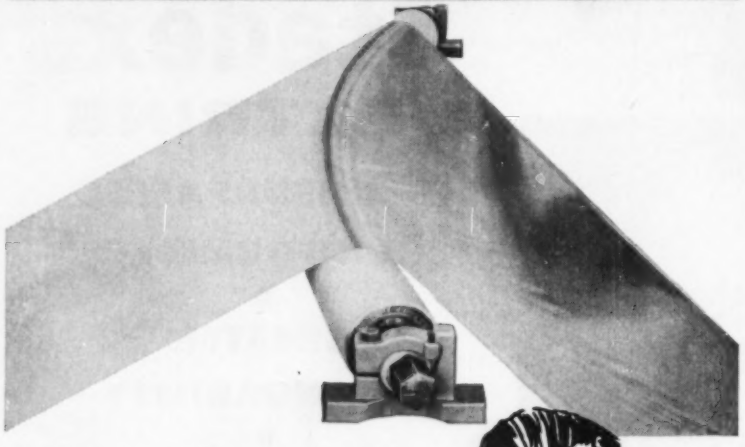
MOUNT HOPE
"Free-Wheeling"
EXPANDERS



That's the report from modern mill men everywhere . . . MOUNT HOPE "Free-Wheeling" EXPANDERS have proved to be the simplest, surest way to keep cloth smooth, at full width, and free from distortion. One of many such cases is described in the free, illustrated folder shown below. Send for it. Find out how easily you can protect quality and profits with MOUNT HOPE "Free-Wheeling" Expanders. Fill out and mail coupon today.

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MOUNT HOPE MACHINERY COMPANY
50 Fifth Street, Taunton, Mass.

Please send free, illustrated folder on MOUNT HOPE "Free-Wheeling" EXPANDERS.

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ADDRESS .....
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QUESTIONS & ANSWERS

Do you need help on a technical problem? TEXTILE WORLD is at your service in helping solve problems in yarn manufacturing, weaving, knitting, dyeing, finishing, and other textile operations. A large staff of mill men, consultants, and other experts are available for authoritative answers. Send your problem to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

High-Speed Slashing Causes Rolled Ends on Beams

Technical Editor:

High-speed slashing has brought on trouble from rolled ends on loom beams. Can you tell us how to eliminate or improve this condition? (1465)

You might try adding two 1-in. rolls between the back roll and the delivery roll or go to finer-dent reeds. It sometimes helps to pick a pin lease in the section beams and space lease-rod stands so that the warp sheets do not touch.

Low Tension Produces Better Stretch-Yarn Socks

Technical Editor:

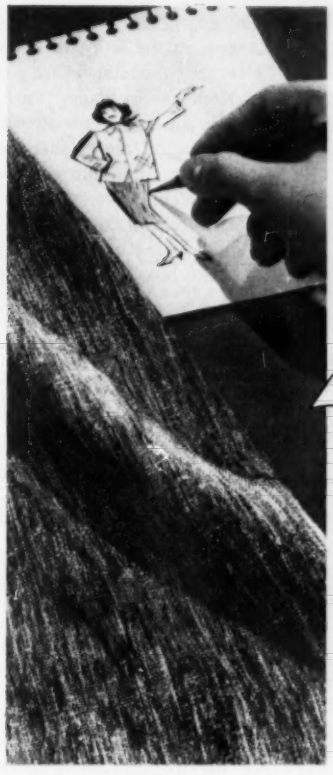
We have had very little experience in knitting stretch yarn but are thinking of putting a few of our Komet machines on stretch socks. Can you give us some pointers that would be of help in getting the job started? (1477)

Here are some suggestions that should help you start your new project:

Knit stretch yarns on your finest-gauge machines. Greater elasticity is obtained if the yarn is run on machines of finer cuts.

Knit with low tensions. High yarn tensions produce tight stitches, and little elasticity is obtained in the fabric if the stitch cams are pulled low. Stripe in a spun yarn for the looper's rounds so the fabric doesn't run.

Use 140-den. aliginate yarns for the draw thread on Komet socks. This yarn makes a neater welt and saves time in separating. The socks can be



Vitel

*means "Freedom"**

This "Fresh Look in Fashion" started with VITEL, new polyester resin by Goodyear. From VITEL came VYCRON, sensational polyester fiber by Beaunit Mills, Inc., Fibers Division. And from VYCRON: this fashion-fresh fabric by a leading textile mill. Yes, VITEL has started a stunning success story. Behind it—a revolutionary Goodyear policy—we make only the resin, *not* the fiber. Result: **new freedom to weave a wider range of wonder fabrics.*

Properties of fiber spun from VITEL:

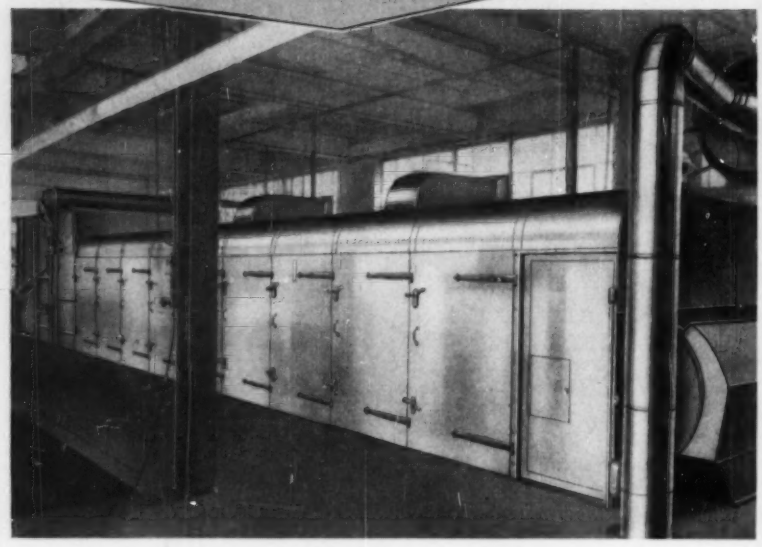
- *Exceptional yarn strength—good fiber-to-fiber cohesion.*
- *Outstanding dyeability and colorfastness.*
- *Excellent wrinkle-resistance—ideal for wash-and-wear.*
- *Easy processability on standard spinning systems.*

For more information, write: Goodyear, Chemical Division, Dept. L-9433, Akron 16, Ohio

GOODYEAR
CHEMICAL DIVISION

Vitel—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio Vycron—T. M. Beaunit Mills, Inc., Fibers Division

How to Cut Costs in Fibre Processing



The SARGENT System...

Fully Automatic Handling of Natural and Synthetic Staple from Dye Kettle or Washer to Card.

Delivers uniformly dried, lofty stock at high volume rate. Releases manpower for other work. Better than 1,000 lbs. per hour produced continuously, day in, day out. Installations have cut processing costs better than one-third.
This highly efficient, economical Sargent-designed system has only five units:

1. Rotary type Wet Feeder takes air-blown wet fibres from the dyehouse, feeds them to squeeze roll machine. Has ball-bearing main cylinder with stainless steel teeth, a rotary comb, two heavy rubber aprons — one to feed fibre to main cylinder, the other to deliver fibres to nip of squeeze rolls.
2. Extractor has sectional rubber ring roll, hammered steel bottom roll with fine knurl. Pneumatic loading, two air cylinders, control panel and indicating dial. Working at 80 lbs. pressure estimated air consumption is 4 cfm.
3. Stock Fan and Cyclone Condensor. Stock fan takes fibres from extractor, delivers them to cyclone condensor mounted above hopper of dryer feed, opening fibres and conditioning them for even, smooth delivery to dryer.
4. Rotary Feeder delivers even layer of fluffed fibres to dryer conveyor. Designed to effect a semi-combing action, eliminating matted bunches for more uniform drying, fewer neps at card.
5. Dryer with Blow-Up Section. Air-flow is down through traveling stock, with up-draft at blow-up section, midway of dryer. A highly efficient way to redistribute fibres evenly over stainless steel perforated flight conveyor and to even out moisture content of all fibres. Equipped with air-operated recording type temperature controls complete with steam control valves and air filter. These dryers are designed for easiest cleanout, fastest installation and highest operating economy of any dryer on the market.

Every machine in the system boasts Sargent's rugged construction; with simplicity of design, minimum maintenance, dependable, steady performance. Here is a system to save you money, man-power, time. Let us give you complete details.

C. G. SARGENT'S SONS CORPORATION

Graniteville, SINCE 1852 Massachusetts

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pulled apart, and the loose ends will disappear in the scour or dyebath.

Use a lighter star-wheel weight on the Komet machines; the regular weight is too heavy for stretch socks. Cut a piece off the regular weight or substitute an aluminum weight for the regular weight.

Hasten relaxation of socks for sizing and looping by placing the socks in a steam box for a few minutes.

Table Reduces Errors In Sizing Plied Yarn

Technical Editor:

We frequently have to investigate the properties of plied cotton yarn secured from different sources. Our technicians often make errors by failing to size the required length for the various numbers and plies. Can you suggest a system that might make the operation more efficient? (1488)

The accompanying table was worked out by one mill that had the same problem. This mill finds that it is not necessary to make allowance for the take-up in twisting. In some instances, the plies are disengaged and the single yarn is sized.

You are not likely to find many yarns with plies in the twenties; but this mill did occasionally run some; so the table was extended to 25 ply. The table, based on 120 yds. of single yarn, follows;

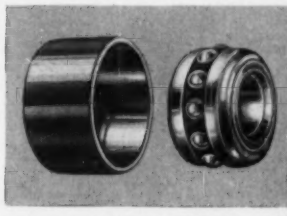
Ply	Yds.	Ins.
1	120	0
2	60	0
3	40	0
4	30	0
5	24	0
6	20	0
7	17	5
8	15	0
9	13	12
10	12	0
11	10	13
12	10	0
13	9	8
14	8	21
15	8	0
16	7	18
17	7	2
18	6	24
19	6	11½
20	6	0
21	5	25½
22	5	16½
23	5	8
24	5	0
25	4	29

PRODUCT INFORMATION

A Complete Line Of Cost-Saving Sealed Ball Bearings For Modern Mill Efficiency!

N/D sealed ball bearings offer many production savings for modern textile mill operation. They permit higher speeds and production . . . require less power . . . and reduce maintenance substantially. N/D textile bearings are produced with integral closures to exclude foreign matter as well as protect valuable yarn and goods against damaging oil spatters. Many are lubricated and sealed-for-life. Others use N/D's Injection-Relubrication system, permitting revitalization of bearing lubricant for continued, trouble-free performance.

If you're modernizing, rebuilding, or designing new textile machinery, it will pay you to contact the N/D Sales Engineer in your area. Or, call New Departure Division, General Motors Corporation, Bristol, Connecticut.

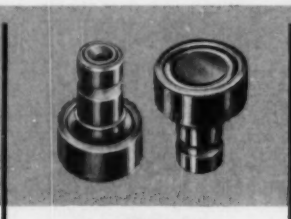


SPINDLE BEARINGS

. . . cylindrical outer race permits removal of spindle from bolster without removing bolster from rail. Used for step bearings as well as in high-speed spindle applications.

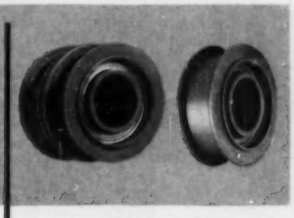
TREADLE ROLL BEARINGS

. . . permanently lubricated for long service. Designed to eliminate sparking. Double seals prevent leakage of lubricant, keep out dirt and lint.



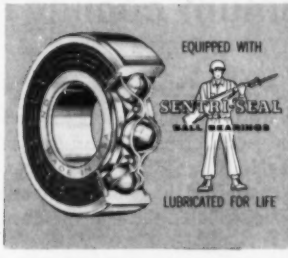
TENSION PULLEY BEARINGS

. . . available for both vertical mounting of idler and tension pulleys . . . or horizontal mounting of tape tension pulleys.



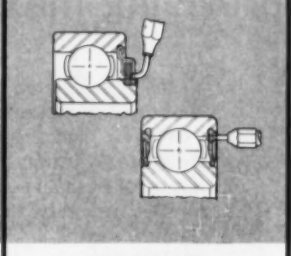
SHEAVE BEARINGS

. . . for automatic looms. Self-sealing assures protection of textiles against splatter, eliminates relubrication problem. Designed to permit nesting in gangs on harness sheave supporting shaft.



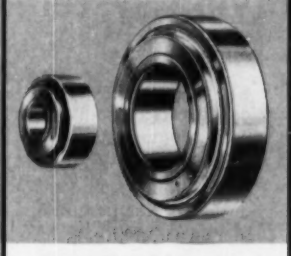
PRECISION BEARINGS WITH SENTRI-SEAL

. . . keep lubrication in, seal out lint, dirt, moisture for life. Seals are synthetic rubber with molded-in spring steel insert. For most ball bearing types and sizes.



INJECTION-RELUBRICATION SYSTEM

Hollow needle and metering oiler extend grease life in bearings for many months in high-speed, long-service applications.



PRECISION BALL BEARINGS WITH FELT SEAL

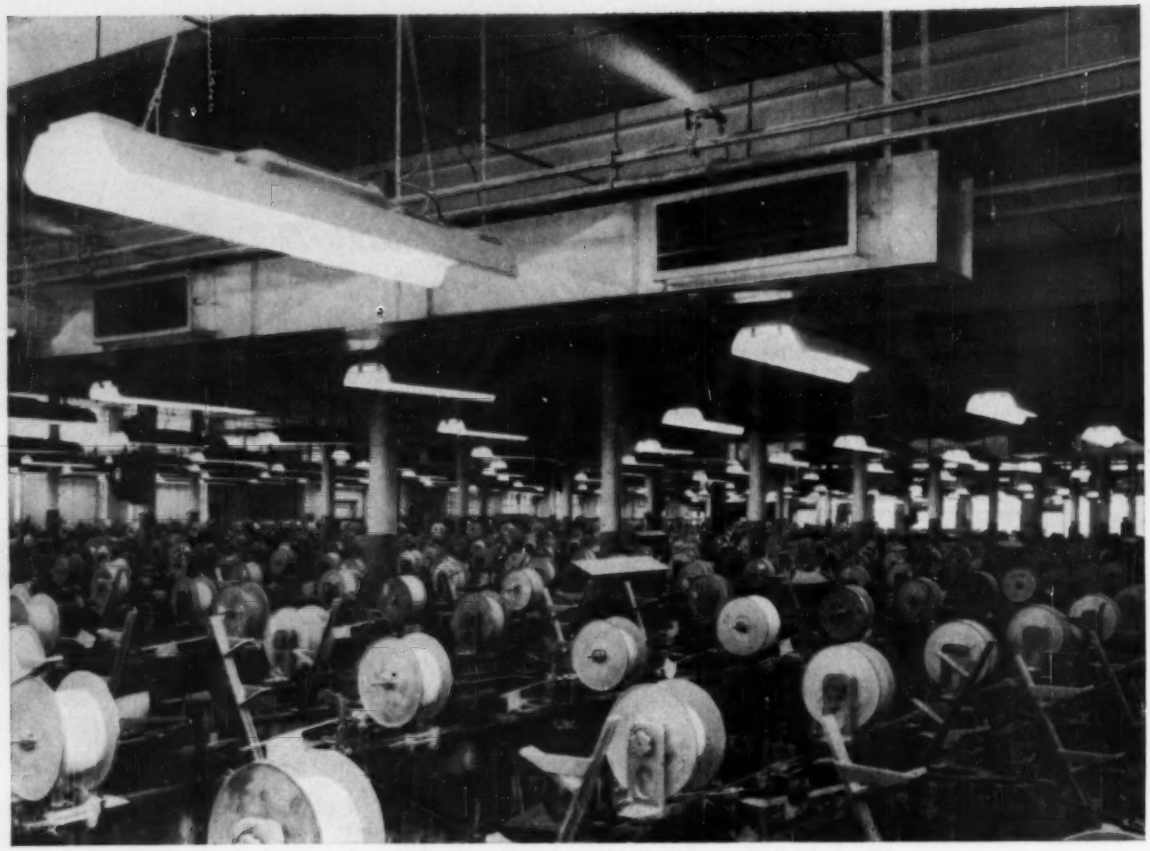
. . . annular ball bearings are protected from dirt, retain lubricant by integral felt closures. Complete line from 5mm. to 2¾" bore, relubricated by injection.

ADAPTER BEARINGS

. . . easily applied to shafts; positive lock. Pre-lubricated, sealed. For moderate loads and speeds. Spherical or cylindrical O.D. for shafts ½" to 2 7/16" dia.

SEND FOR N/D TEXTILE BALL BEARING CATALOG TEX-1

NEW DEPARTURE
BALL BEARINGS
NOTHING ROLLS LIKE A BALL



Providence Braid Company, Providence, R. I. showing ductwork, air outlets and atomizers.

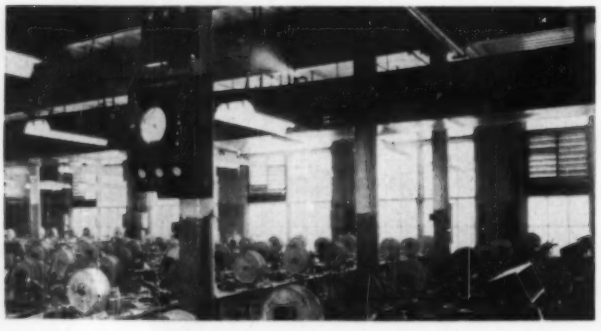
Is your humidifying system providing maximum cooling?

At Providence Braid Company an Amco Unit Dry-Duct system operates to control humidity precisely and, at the same time, to provide maximum cooling commensurate with the required evaporation.

As moisture from atomizers in a humidifying system evaporates, heat is absorbed and the air temperature is lowered. This cooling can be increased substantially by a positive ventilating system (such as an Amco Unit Dry-Duct system) which introduces fresh air uniformly throughout the mill room, thereby deliberately increasing the demand for evaporation in order to lower the temperature and maintain the selected humidity.

A unit dry-duct system consists of one or more air handling units, air ducts, room atomizers and pressure type window vents. When cooling is not required, recirculated air (instead of fresh air) is drawn into the unit, filtered and heated when necessary, then distributed through the ducts back into the room.

Amco's Unit Dry-Duct system is only one of several types of textile mill air conditioning systems which Amco engineers, manufactures and installs. For expert help, based on more than 70 years' experience, next time call on Amco.



◀ In same mill room, humidity control in foreground — window exhaust vents in background.

AMCO

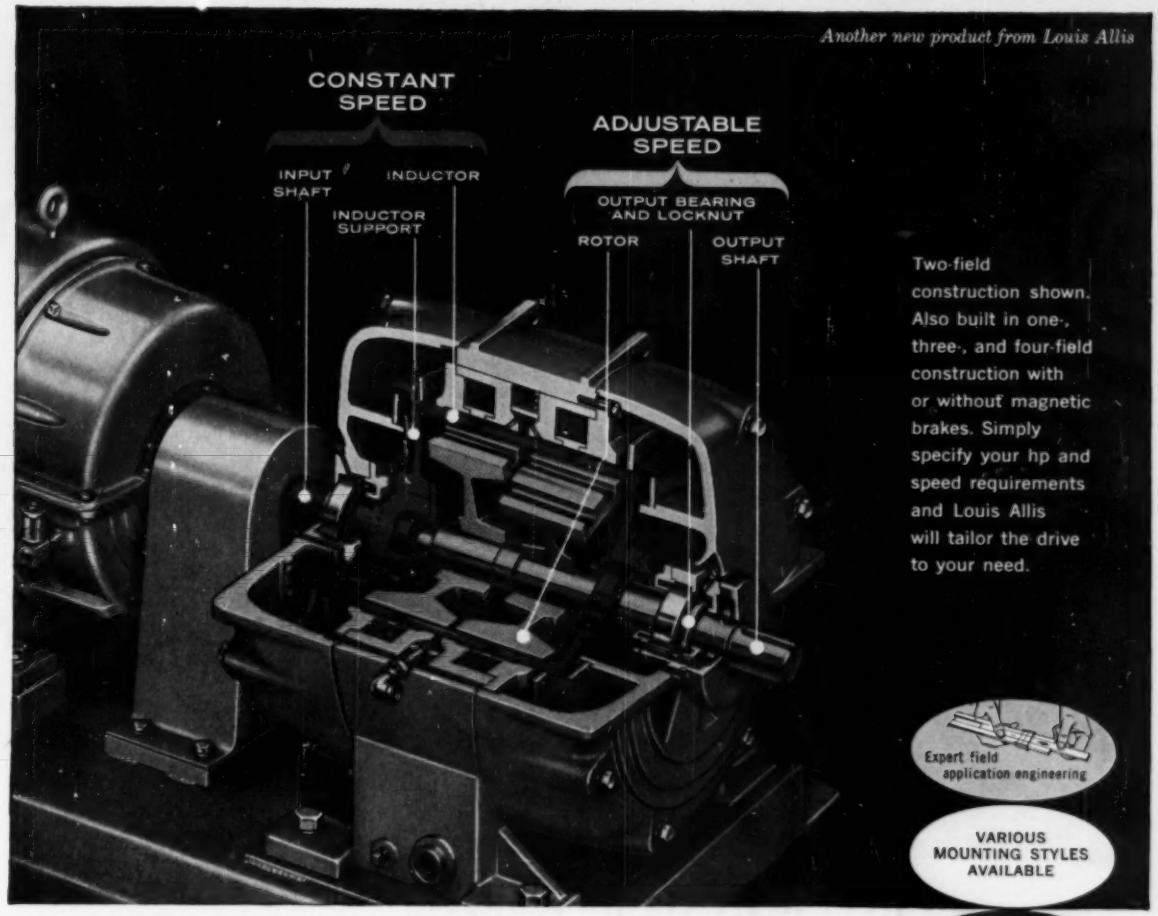
SINCE 1888

AIR CONDITIONING EQUIPMENT

AMERICAN MOISTENING COMPANY, CLEVELAND, N. C.

Branches: Atlanta, Ga. • Providence, R. I. • Toronto, Ont.

Another new product from Louis Allis


CONSTANT SPEED
ADJUSTABLE SPEED
INPUT SHAFT
INDUCTOR
INDUCTOR SUPPORT
OUTPUT BEARING AND LOCKNUT
ROTOR
OUTPUT SHAFT
Two-field construction shown. Also built in one-, three-, and four-field construction with or without magnetic brakes. Simply specify your hp and speed requirements and Louis Allis will tailor the drive to your need.
Expert field application engineering
VARIOUS MOUNTING STYLES AVAILABLE

The new Louis Allis MAGNETIC DRIVE

A compact, adjustable speed drive up to 2000 hp!

Based on a liquid-cooled magnetic coupling design, the *all-new* Louis Allis Magnetic Drive offers you the finest in precise regulation, compactness, and design flexibility for adjustable speed drives up to 2000 hp.

A unique annular cooling manifold provides effective heat transfer. It eliminates "water-drag" since there is *no* liquid in the air gap between the constant-speed and adjustable-speed members. There's no "flooding" the Magnetic Drive or forcing of water into bearings. And you'll *never* find condensation in the bearings. The reason: a planned flow of air through the drive reduces bearing temperatures and exhausts any condensation which might occur as the unit cools off after use.

Stationary field construction eliminates slip rings. All bearings can be lubricated without disassembly, and grease chambers provide ample grease reservoirs. Coils and lead connections are encapsulated in a chemical- and heat-resistant polyester — and simplified construction eases inspection and servicing. The *all-new* design permits simple relocation of cooling inlet, conduit box, discharge, etc., regardless of direction of rotation.

If your plans call for adjustable speed drives — specify Louis Allis Adjustable Speed Magnetic Drive. Write for a copy of Bulletin 3650 — now available at your Louis Allis District Office, or from The Louis Allis Co., 443 E. Stewart Street, Milwaukee 1, Wisconsin.

LOUIS ALLIS

MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE SPEED DRIVES

ASD-135

CIRCLE 25 ON READER SERVICE CARD 25

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TAPEnology licks tricky build-up... cuts downtime, saves dollars!

Now, by spirally wrapping "SCOTCH" Brand Plastic Film Tape No. 549* around your pot-eyes, carrying rolls and drying cans, you can practically stop the build-up of sizing agents, lint and other encrusted dirt in your mill. Result: drastic reductions in downtime for clean-up; decreased output of second quality goods due to soiling; faster production; surer inspection.

Tape No. 549 provides a surface to which practically nothing can adhere. Any minor dirt transfer that does occur can be quickly and easily removed with a damp swab . . . no caustics, heavy solvents or scraping needed! It sticks-at-a-touch; can be applied by anyone right on the production line in just a few minutes.

Your 3M Representative will be glad to advise or assist you in finding opportunities for No. 549 tape to cut costs in your mill. Ask your nearest "SCOTCH" Brand Tape Distributor for details, or write: 3M Co., 900 Bush Avenue, St. Paul 6, Minn., Dept. IAP-129.

**Made from DuPont's TFE-fluorocarbon resin.*

When tape costs so little, why take less than "SCOTCH" Brand?

"SCOTCH" is a registered trademark for the pressure-sensitive adhesive tapes of 3M Co., St. Paul 6, Minn. Export: 99 Park Ave., New York 16. Canada: London, Ontario.

MINNESOTA MINING AND MANUFACTURING COMPANY
. . . WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

Now!

textile processors spell it

. . . best buy for your detergent dollar!

OTHER TEXTILE NACCONOLS

NACCONOL NR Flake
NACCONOL DB Dense Beads
NACCONOL DBX Super Dense Beads

All Minimum 40% Active Organic Content!

NACCONOL® SL Alkyl Aryl Sulfonate is the largest selling liquid detergent in the textile industry.

First, NACCONOL SL delivers more cleaning power per dollar on an active ingredient basis than most dry products.

Second, it cuts production time and costs . . . minimizes waste. Liquid NACCONOL SL is clean, easy to handle, requires no dissolving.

Convince yourself of NACCONOL SL's economy with a mill trial. Call or write your nearest National Aniline office for a test sample.

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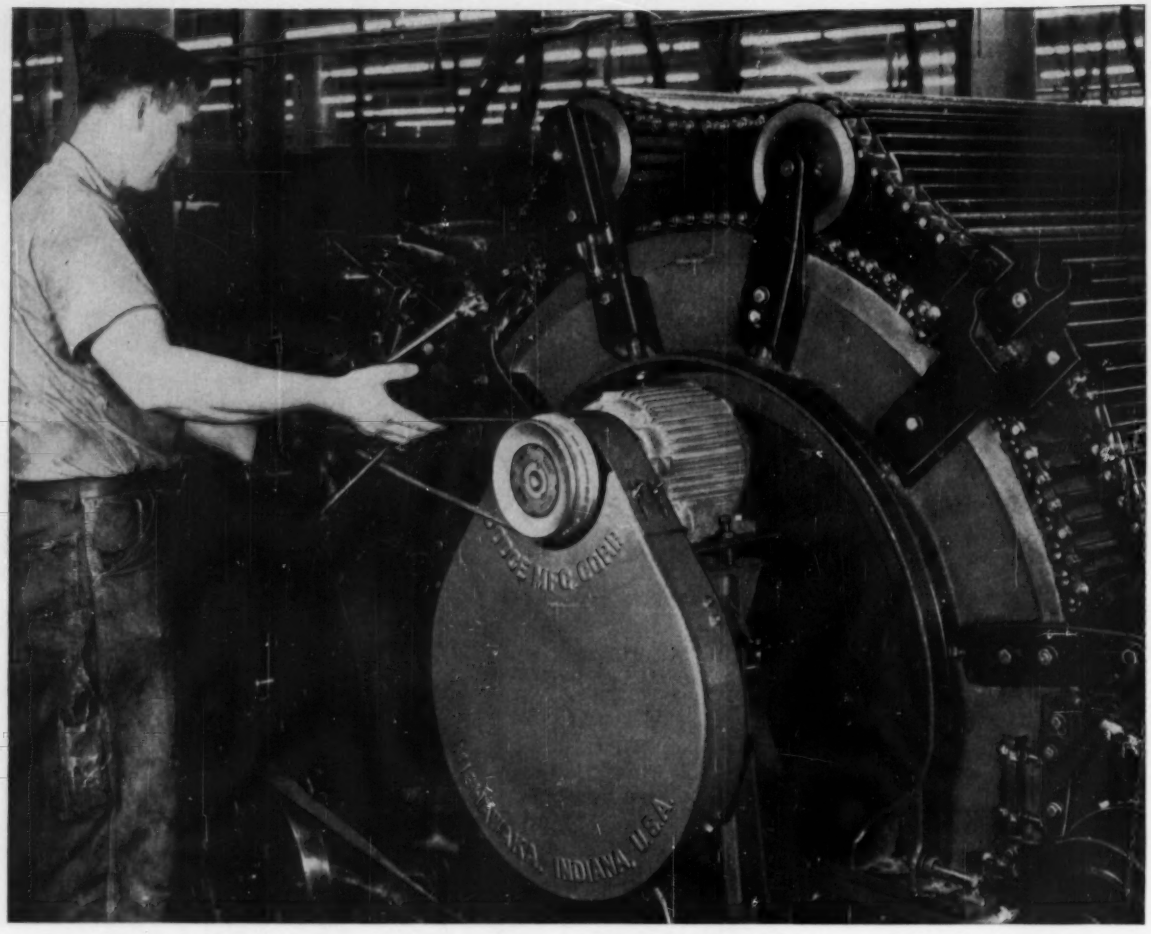
CIRCLE 27 ON READER SERVICE CARD



INDIVIDUAL CARD DRIVE GIVES SOFT STARTS

...ACCELERATES QUICKLY TO FULL SPEED

...AVOIDS EXCESSIVE STRAIN

Flexidyne, heart of this new complete Card Drive by Dodge, picks up the load smoothly... protects machinery and motor against shock and overload . . . delivers 100% efficiency during running cycle. Flexidyne, *the Dry Fluid Drive,* eliminates need for high torque motors and expensive controls, saves power, provides a new and better way to drive textile machines.

Note the special aluminum pulley mounted on Flexidyne housing, enabling quick, convenient operation of stripper. Pedestal has adjustable motor base to control tension on V-belts. You should have the full story of all the advantages of the new Dodge Flexidyne Card Drive. Ask your local Dodge Distributor, or write us, for new illustrated Bulletin A-653.

DODGE MANUFACTURING CORPORATION
1400 Union Street, Mishawaka, Indiana

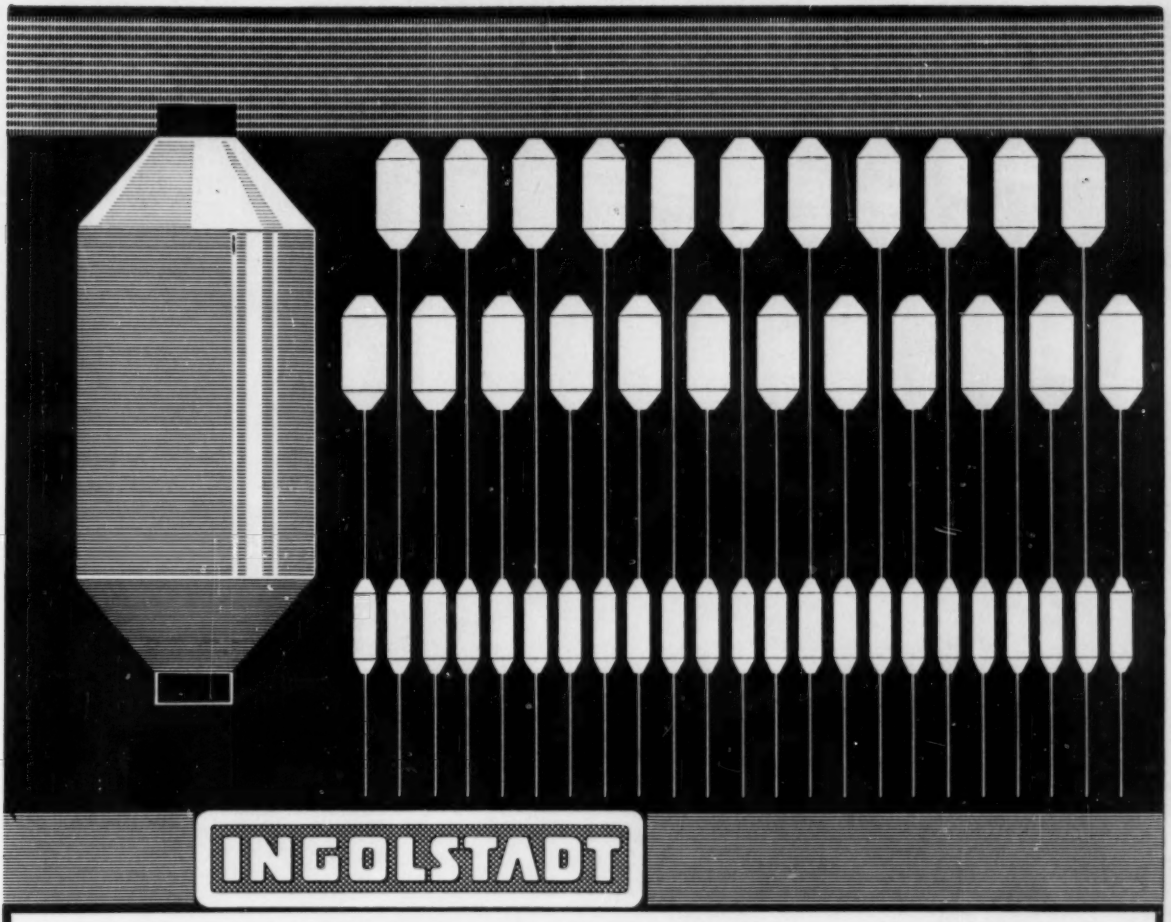
NEW! FLEXIDYNE CARD DRIVE

A complete package, ready to install.

- **Flexidyne, keyed to motor shaft**
- **Pedestal, supporting motor**
- **V-flat drive**
- **Aluminum stripper pulley**
- **Aluminum guard**

DODGE
of Mishawaka, Ind.

CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."

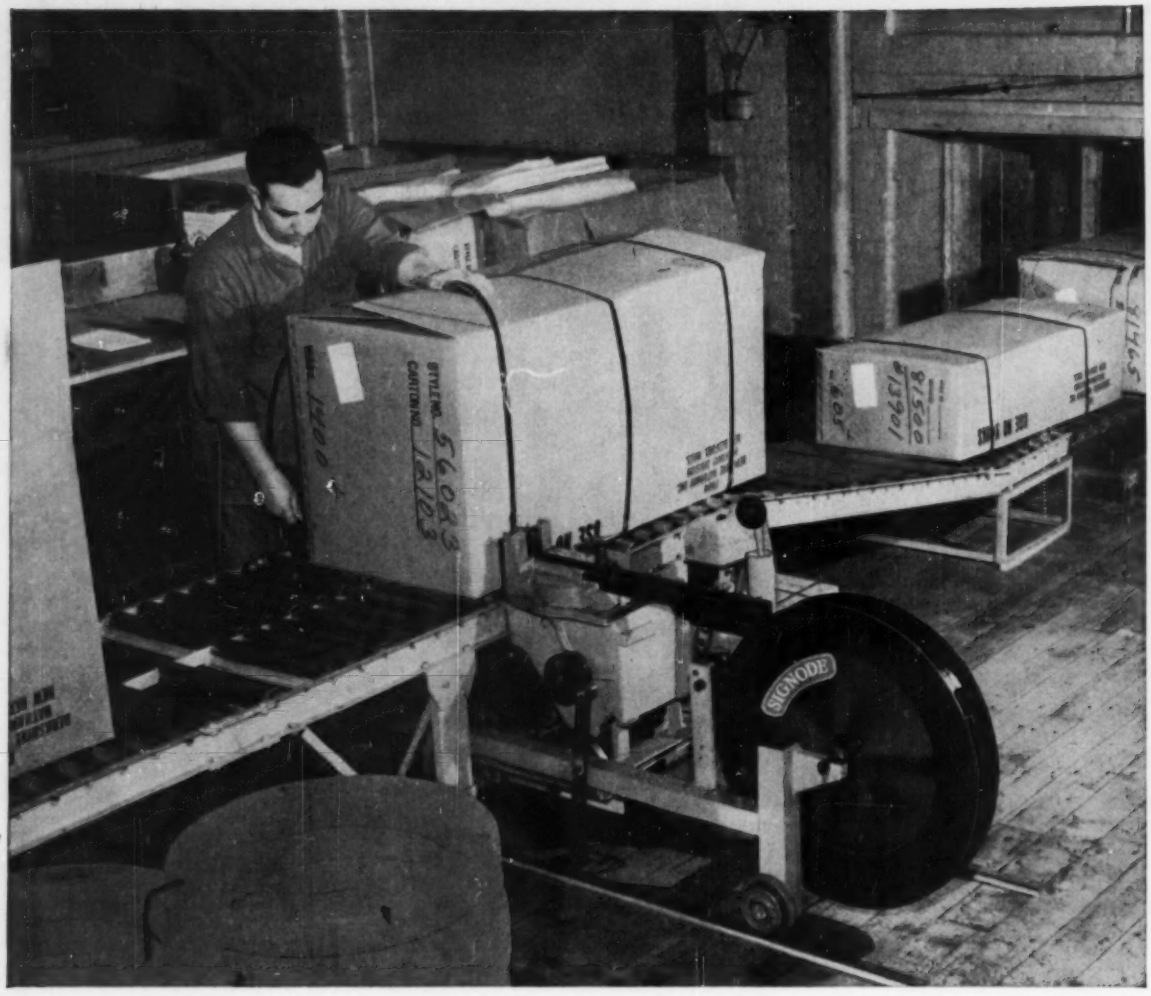


Planning and supply

of complete spinning plants for cotton, worsted,

artificial and synthetic staple fibres

DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT/*Donau*



Signode PSM saves 8 man-hours per day

The Signode Power Strapping Machine applies each strap around these textile cartons in seconds...with right tension every time. The operator needs only seconds more to re-position the carton and feed the next strap.

Savings in time come to eight man-hours per day—equivalent to many times the Signode lease cost.

The Signode man can show you how strapping can save you money in many ways...with denser bales that save space and freight...with ways to eliminate wasted strap ends by using continuous feed. He can show you how to dress up your bales and cartons with seals that bear your trademark...show you new Signode machines, including air and electric power strapping tools and power strap feeders.

Make your product cost less to handle, store, ship, and receive. Call the Signode man near you, or write:

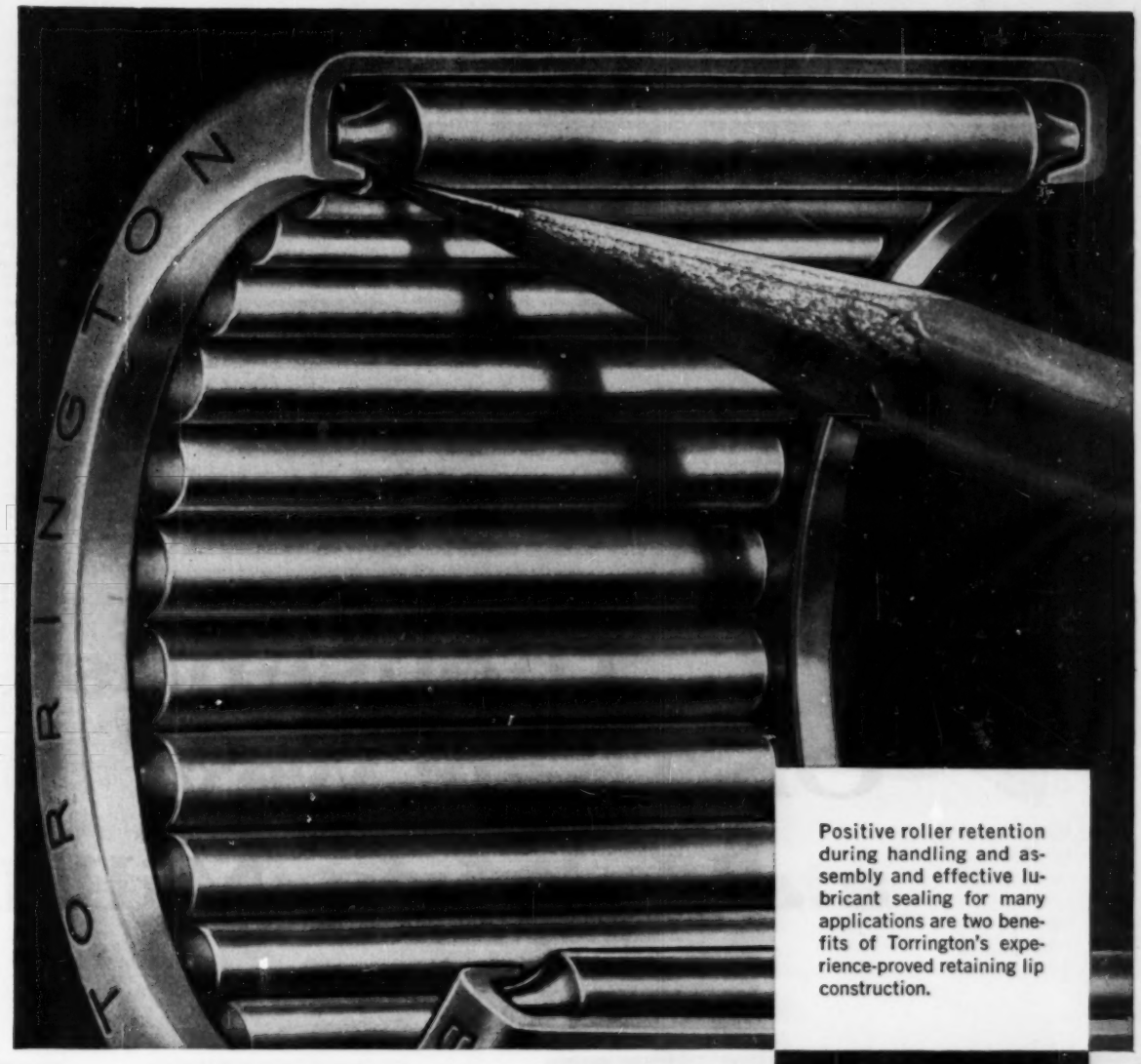
SIGNODE

First in steel strapping

SIGNODE STEEL STRAPPING CO.

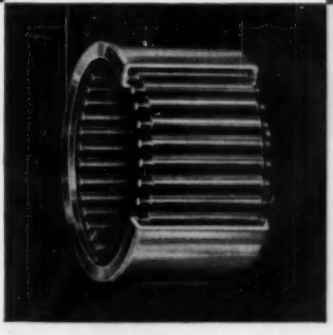
2642 N. Western Avenue, Chicago 47, Illinois

Offices Coast to Coast. Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto



Positive roller retention during handling and assembly and effective lubricant sealing for many applications are two benefits of Torrington's experience-proved retaining lip construction.

This little lip makes a big difference!



The turned-in lip at each end of Torrington Needle Bearings positively retains the trunnion - end rollers and makes the bearing truly a complete unit, with no possibility of roller fall-out.

This unit construction simplifies installation and servicing. The closely controlled clearance and the large area between cup lips and shaft form an effective labyrinth seal. Also this retaining lip allows pregreasing the bearing with the proper lubricant for each application.

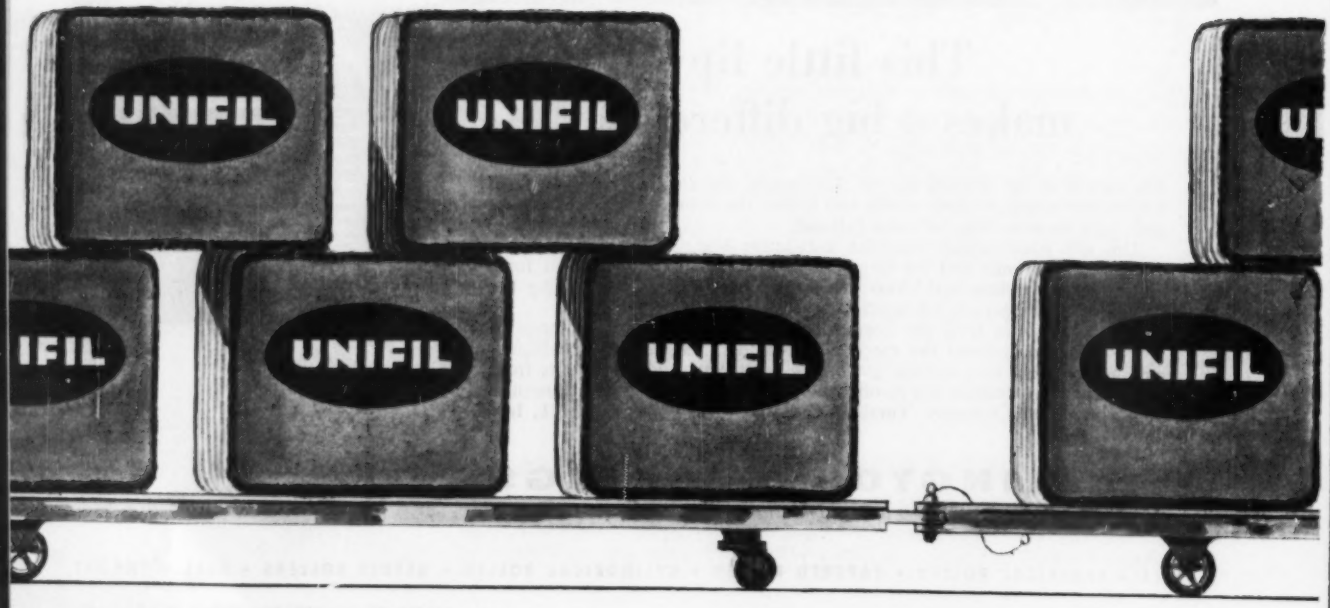
Long experience with the Torrington Needle Bearing in thousands of applications has proved the merit of this and other features in efficient performance and long service life. Make sure *your* product benefits from the best that experience has to offer—specify Torrington Needle Bearings. **The Torrington Company, Torrington, Conn.—and South Bend 21, Ind.**

TORRINGTON BEARINGS

District Offices and Distributors in Principal Cities of United States and Canada

NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • CYLINDRICAL ROLLER • NEEDLE ROLLERS • BALL • THRUST

Thousands On Their Way ...Helping Mills



The outstanding versatility and uniformity that UNIFIL® Loom Winders provide are enabling mills everywhere to enter markets they never even considered before! With cotton, synthetic or textured yarns, progressive mills are producing fabrics in an almost limitless variety of hand, patterns, and surface effects. And . . . they're doing it with maximum economy of operation.

Initial step toward wider markets in many of these mills was a comprehensive study of filling yarn preparation methods, using the Leesona "Profit Factor Analysis." This thorough examination of methods and equipment carried out by Leesona Engineers showed precisely how UNIFIL Loom Winders could increase the scope of weaving operations as well as reduce production costs and improve quality. Very often analysis results proved conservative compared to actual performance. Most mills *reordered*.

UNIFIL Loom Winders can provide all the advantages of weaving-from-the-cone in *your* mill — by bringing the entire process of filling yarn preparation to the loom. They'll greatly improve the quality of fabrics woven from fine yarns . . . give fabrics with textured yarn filling a uniformity not possible before. Let a "Profit Factor Analysis" show you how UNIFIL can help your weaving operations. Ask your Leesona Sales Engineer in Boston, Philadelphia, Charlotte, Atlanta, or Los Angeles. In Canada: Montreal or Hamilton. Or write Leesona Corporation, P. O. Box 1605, Providence 1, Rhode Island.

Here are just a few of many modern mills which are saving with UNIFIL Loom Winders:

J. P. STEVENS & CO., INC.
BURLINGTON INDUSTRIES, INC.
PONEMAH MILLS
DRAYTON MILLS, INC.
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UNITED MERCHANTS & MFRS. INC.
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EXPOSITION COTTON MILLS
GREENWOOD MILLS
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STRASBURG TEXTILE MILLS, INC.
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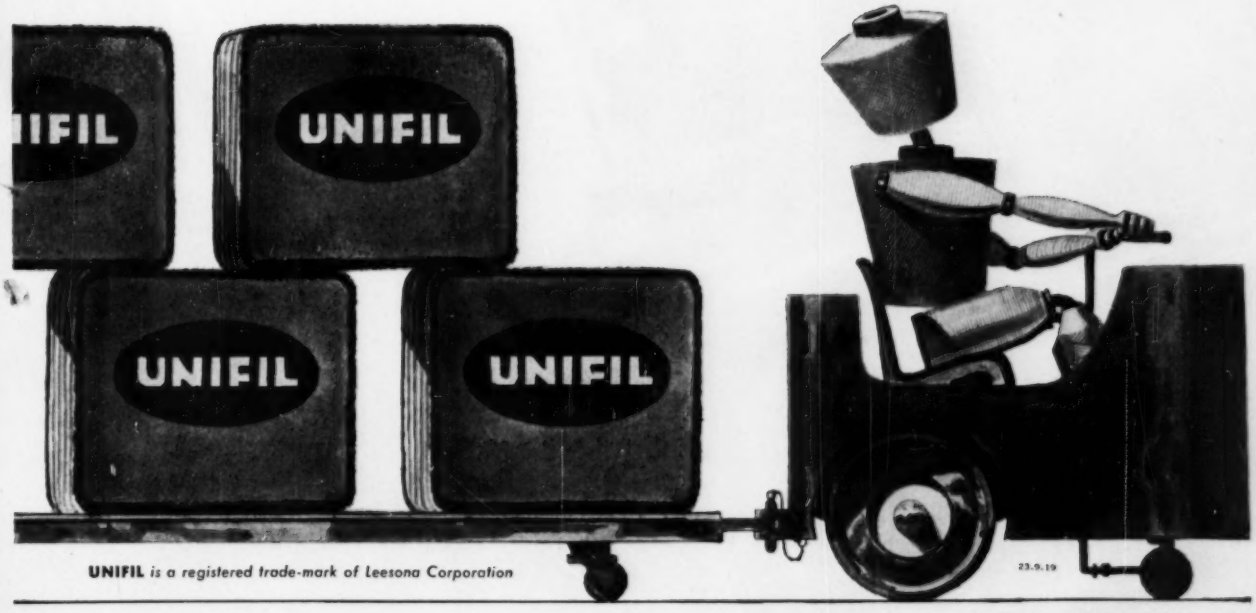
RIVERSIDE MILLS
STANWOOD MILLS, INC.
STARR MILLS CORP.

LEESONA

Versatility with
Any Filling Supply

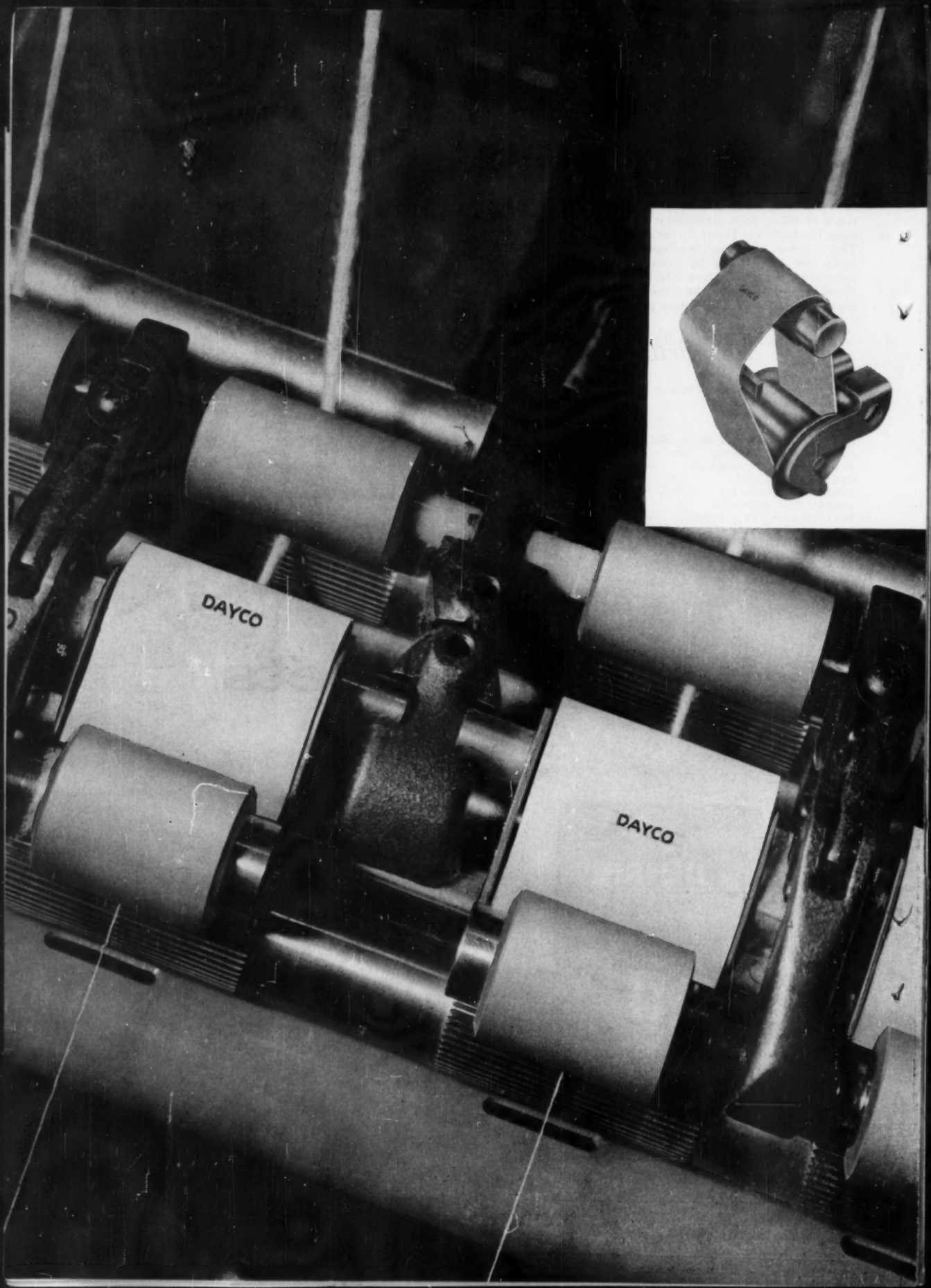
Expand Markets



UNIFIL *is a registered trade-mark of Leesona Corporation*

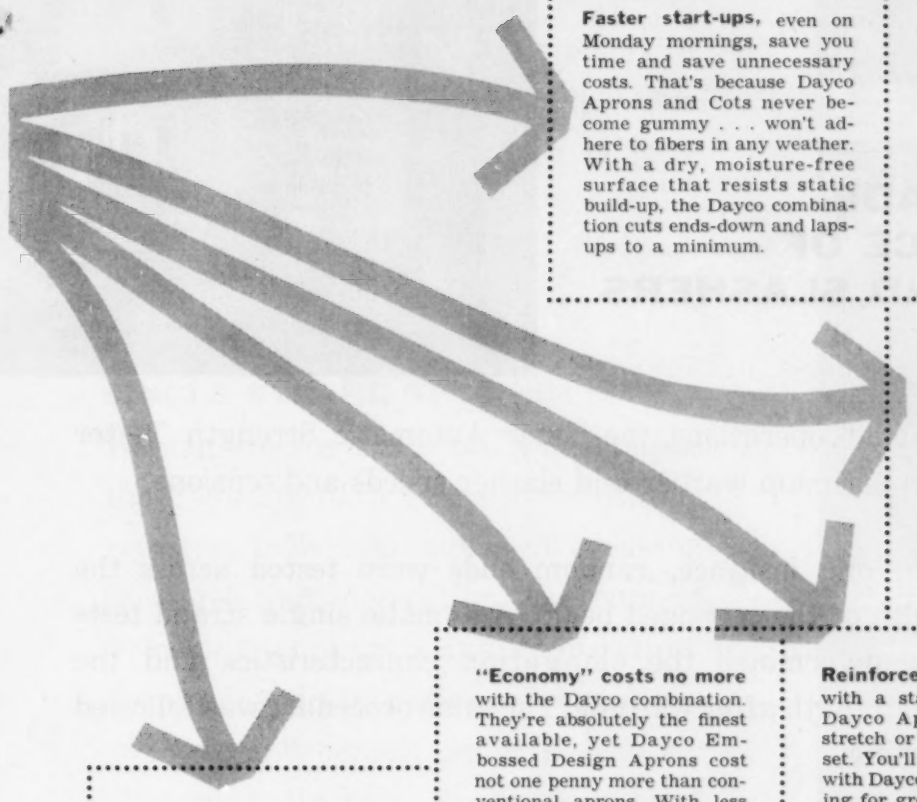
23.9.19

CIRCLE 33 ON READER SERVICE CARD


DAYCO
DAYCO

Speed! Quality! Economy!

You get all 3 with Dayco Aprons and Cots



Faster start-ups, even on Monday mornings, save you time and save unnecessary costs. That's because Dayco Aprons and Cots never become gummy . . . won't adhere to fibers in any weather. With a dry, moisture-free surface that resists static build-up, the Dayco combination cuts ends-down and laps-ups to a minimum.

10% better quality is easy to prove with the smoother drawing action of the new Dayco Embossed Design Aprons. The embossed inner surface . . . really the first new advance in apron design in over 20 years . . . cuts nose bar drag in half to let the new apron glide over the nose without chatter or tucking. Try it yourself!

"Economy" costs no more with the Dayco combination. They're absolutely the finest available, yet Dayco Embossed Design Aprons cost not one penny more than conventional aprons. With less friction drag than any other apron tested, the new Dayco Embossed Design Apron cuts waste collection at the nose bar by fully 50%.

Reinforced for longer life with a stabilized inner ply, Dayco Aprons won't curl, stretch or take a permanent set. You'll want to pair them with Dayco Cots . . . outstanding for greatest resistance to pitting, grooving or glazing in any operation. That way, you double your savings and keep downtime to the barest minimum.

Increase your output of fine quality yarn by outfitting your frames with Dayco's exclusive Embossed Design Aprons and oil and heat resistant Dayco Cots.

Order from your Dayco representative the next time he calls or write The Dayton Rubber Company, Textile Division, 401 S.C. National Bank Building, Greenville, S. C.

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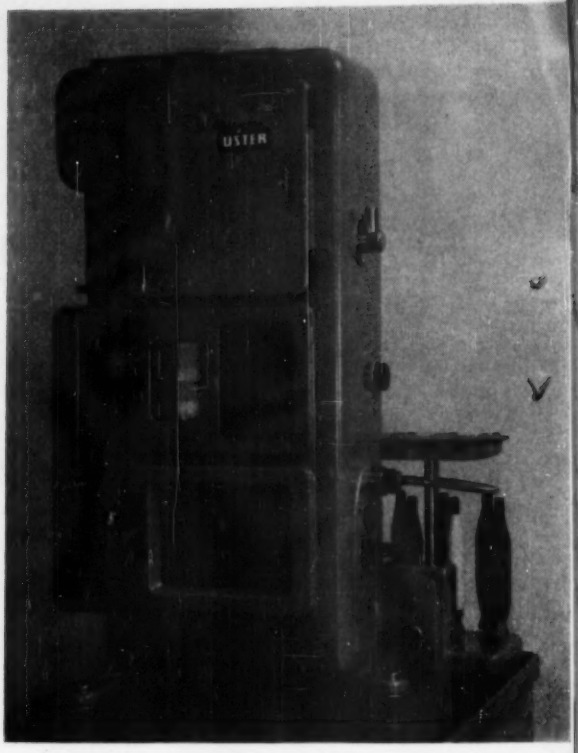
Dayton Rubber

Dayco and Thorobred Products for Better Spinning and Weaving

OVERSEAS PLANT, THE DAYTON RUBBER CO., LTD., DUNDEE, SCOTLAND

CIRCLE 35 ON READER SERVICE CARD

USTER NEWS!



MILLS UPGRADE PERFORMANCE OF WARPERS AND SLASHERS

In current lab operations, the Uster Automatic Strength Tester pins down optimum warper and slasher speeds and tensions.

In one instance, random ends were tested across the entire width of the sectioned beam. Automatic single strand tests effectively determined the elongation characteristics and the breaking strength after warping. The same procedure was followed after slashing.

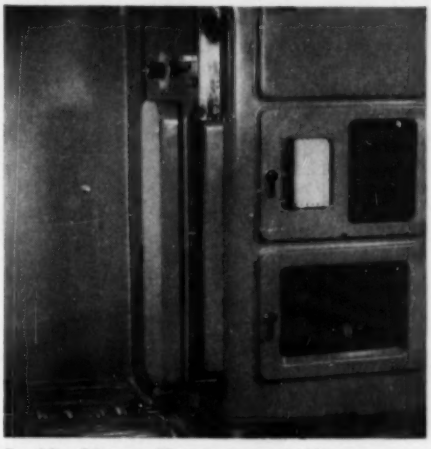
The Uster Automatic Strength Tester telescopes the technician's time required for valuable resultant data. Variations in yarn elongation are immediately apparent, and compensating adjustments of speed and tension improve production at the warper and slasher.

CONTINUOUS QUALITY

MORE AND MORE BUYERS DEMAND SINGLE STRAND TESTS

Customer's specifications are confirmed by complete statistical records of yarn samples. The Uster Strength Tester predicts yarn acceptance before the shipment is made from the spinning mill. Many modern spinning mills render additional service to their customers by passing along yarn test records. Often initial tests are of assistance in later processes.

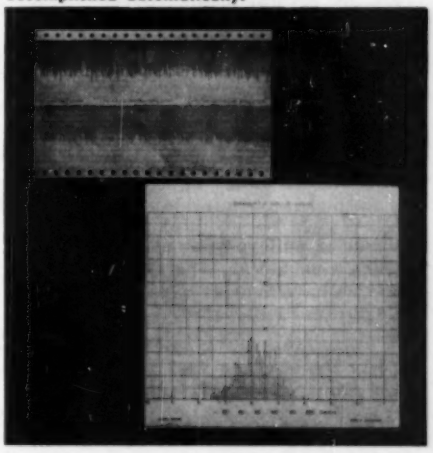
In three minutes, an experienced operator loads creel and starts test.



5, 10, 20 or 40 tests per bobbin are accomplished automatically.

REPUTATIONS REST ON SINGLE STRAND TESTING

Human error is completely wiped out as the Uster Strength Tester automatically registers individual values of breaking strength and elongation, the sum of breaking strength and elongation, frequency distribution of breaking strength and percentage of elongation. Modern mills rely on single strand testing wherein the technician selects 5, 10, 20 or 40 tests per bobbin to fit requirements. The Uster Automatic Strength Tester needs a technician only long enough to start the test.



Technician returns from other work for complete records of yarn sample.

CONTROL IN MANUFACTURING

USTER CORPORATION
CHARLOTTE, NORTH CAROLINA

USTER

Canadian Sales Offices: Hugh Williams & Co., 27 Wellington St., Toronto 1, Ont.

Bolster Briefs

by Ron Kinney

During the past 12 years Ron Kinney has had occasion to visit almost every textile mill in the U. S. A. In these columns he answers some vital questions about mill installations and maintenance—answers that could help improve production and cut operating costs.

How often should we re-lubricate tension pulleys equipped with anti-friction bearings? I've been told they need so little grease that it's safe to forget re-lubrication altogether.

Someone is exaggerating—slightly! Every tension pulley requires lubrication, even though it's just a little grease every two or three years. We recommend that SKF Type "SR" Tension Pulleys be re-greased once every 20,000 working hours.

We're using tension pulleys equipped with plain bearings. I've heard about pulleys equipped with anti-friction bearings. But I can't see any advantage to using them.

There are several distinct advantages. For one thing, anti-friction types help provide smoother operation of spinning and twisting frames. You see, they help reduce variations in spindle speeds and help maintain ideal pulley adjustments. They may even permit you to use light-weight tapes. Another thing: they're simpler and more economical to service.

The tension pulleys we're using revolve in wood blocks. What changes would we have to make to use Type "SR" Tension Pulleys?

You'd probably have to replace parts of the brackets you're using. You'd probably use simple castings that could be made locally. Or you might be able to use the brackets or adapters SKF supplies for its line of tension pulleys.

Do all tension pulleys equipped with anti-friction bearings use ball bearings?

No. We make a tension pulley equipped with ball bearings and also one equipped with one ball bearing and one roller bearing. The latter provides greater load-carrying capacity.

How long should a tension pulley last before it has to be replaced?

If it's properly installed and maintained, it should last indefinitely. Some SKF tension pulleys installed twenty-five years ago are still running. In fact, we've never seen a Type "SR" that failed.

Do tension pulleys equipped with anti-friction bearings have the same diameters as pulleys equipped with plain bearings?

Not necessarily. SKF tension pulleys, for example, usually have smaller diameters. They don't need to be as large because they can carry heavier loads at higher speeds.

5951

GOT A PROBLEM?
SEND YOUR QUESTION TO
"BOLSTER BRIEFS".
c/o SKF INDUSTRIES, INC.
P. O. Box 6731,
Philadelphia 32, Pennsylvania

Stop tape jump-offs with SKF Tension Pulleys!

Why waste valuable time unsnarling and replacing tapes?

Install SKF's Type "SR" Tension Pulleys. They **eliminate tape jump-offs!** They also ensure uniform spindle speeds and permanent pulley adjustments. So they help you get smoother, trouble-free operation from all your spinning and twisting frames.

Type "SR" pulleys are available with either double-row ball bearings or ball and roller bearings. The double-row bearings are made tilt-proof. They're also fully protected from fly and other foreign matter. And they only need re-greasing after 20,000 working hours. About once every 3 to 5 years!

For details, call Philadelphia GArfield 6-6400. Or write: Bolster Briefs, SKF Textile Division, Philadelphia, Pa., or Charlotte, N.C.

Specify "SKF-equipped" accept no substitutes

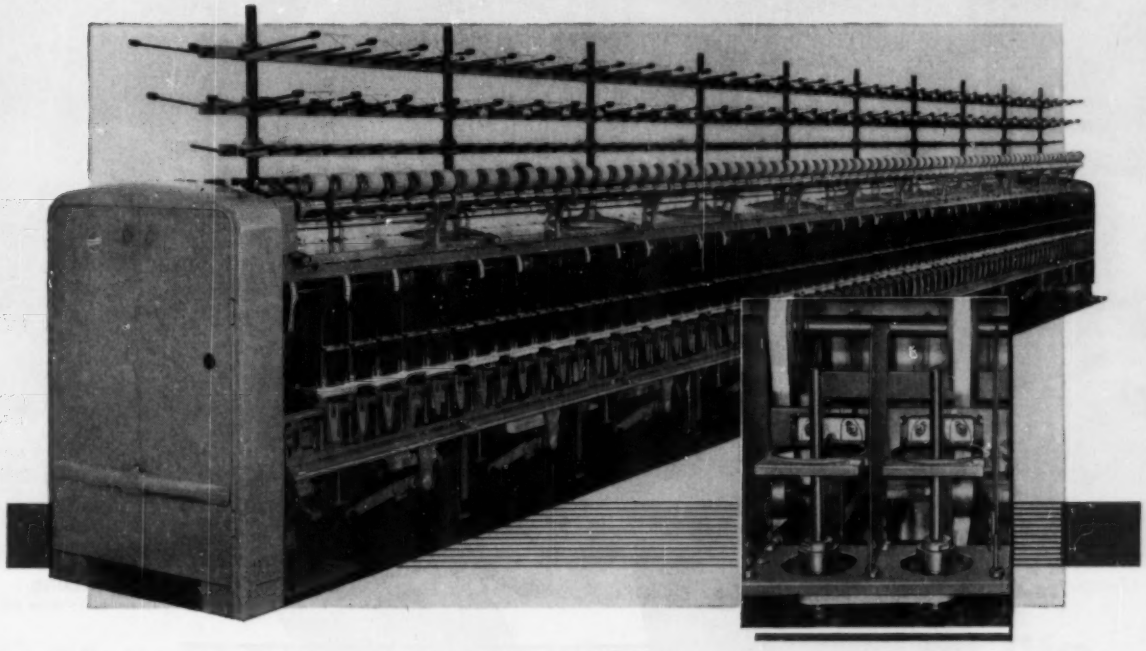
Spherical, Cylindrical, Ball, Thrust, Tapered and REED Miniature Bearings

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC. PHILADELPHIA 32, PA.

Introducing

the PACEMAKER* P-3

A NEW Twister for highest possible production on low twist synthetic yarns



The new Whitin "PACEMAKER" Model P3 Ring Twister has many unique features which provide for maximum twisting efficiency and lowest possible cost. It is capable of operating at exceedingly high speeds which makes it especially attractive for mills processing low twist synthetic yarns. This is definitely *the* twister for forward looking, profit-minded mills!

Examine these outstanding features — many of them exclusive with Whitin:

- ★ **Head end — entire gear train mounted on antifriction bearings — laminated bakelite gears combined with metal gears for quiet operation**
- ★ **Feed rolls — 3" or 4" dia. boss type-hardened steel, heat treated, with chromium plated finish, mounted in grease packed ball bearings**
- ★ **Top rolls — aluminum cot with cork or Accotex covering**
- ★ **Spindle drive — 4-spindle group drive — steel pulleys on ball bearing mounted through shafts — Whitin-SKF b. b. tape tension pulleys**
- ★ **Stationary bottom plate over spindles — insures yarn cleanliness and supports full length separators**
- ★ **Ring rail construction — magnesium rail supporting ring holders having Whitin patented Micrometer adjustment**
- ★ **Rings — up to 5", choice of several auto-lubricated types**
- ★ **Spindles — latest Whitin SUPASONIC, HZ 55 or 66, depending upon bobbin weight — either internal or external brake — an outstanding new development in spindle design**
- ★ **Winds — square bottom differential taper top, square bottom taper with straight builder, and P-1 differential double taper wind on straight pirn**

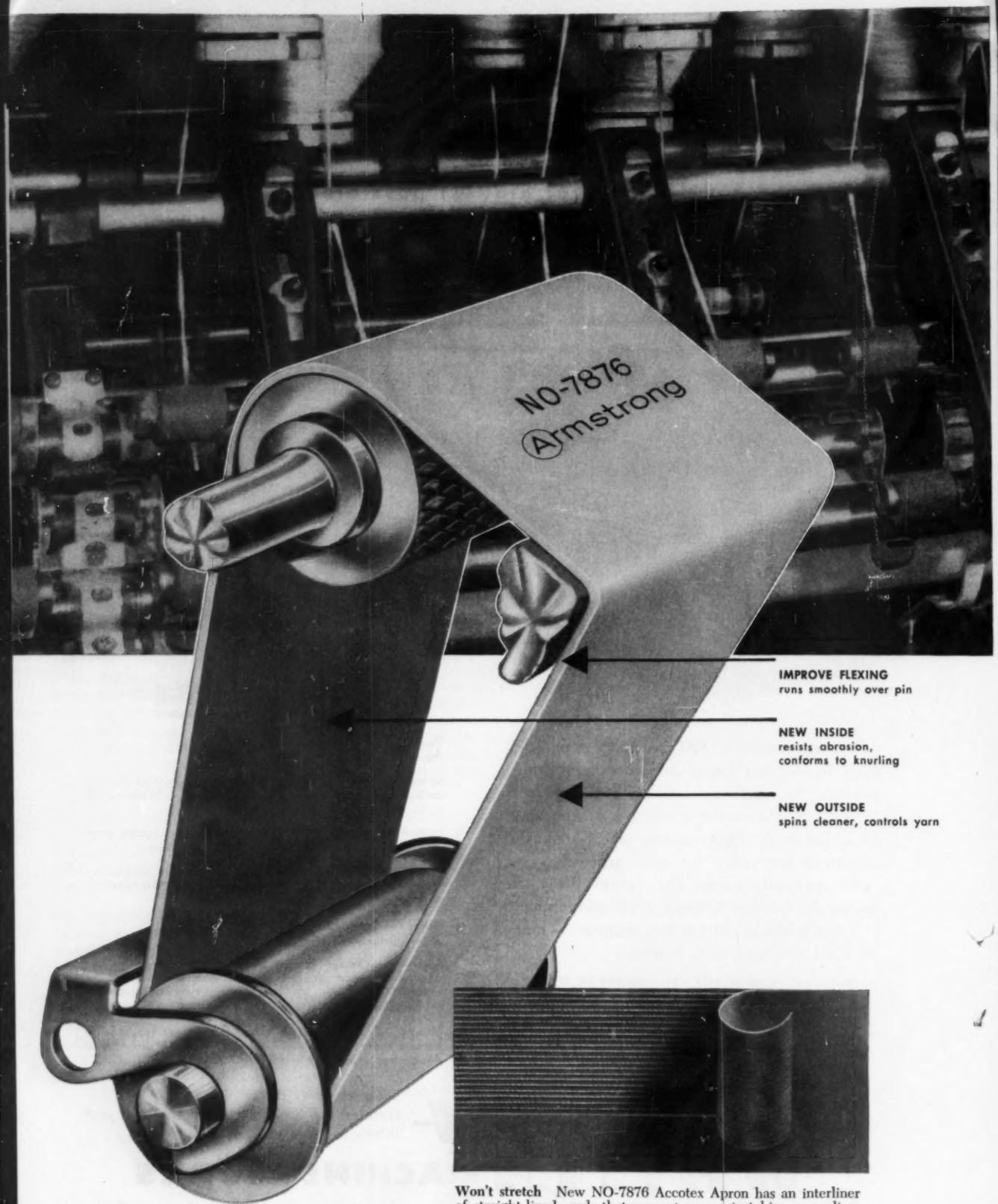
*TRADEMARK

These are only a few of the many features. For complete information, ask your Whitin representative, or write to —

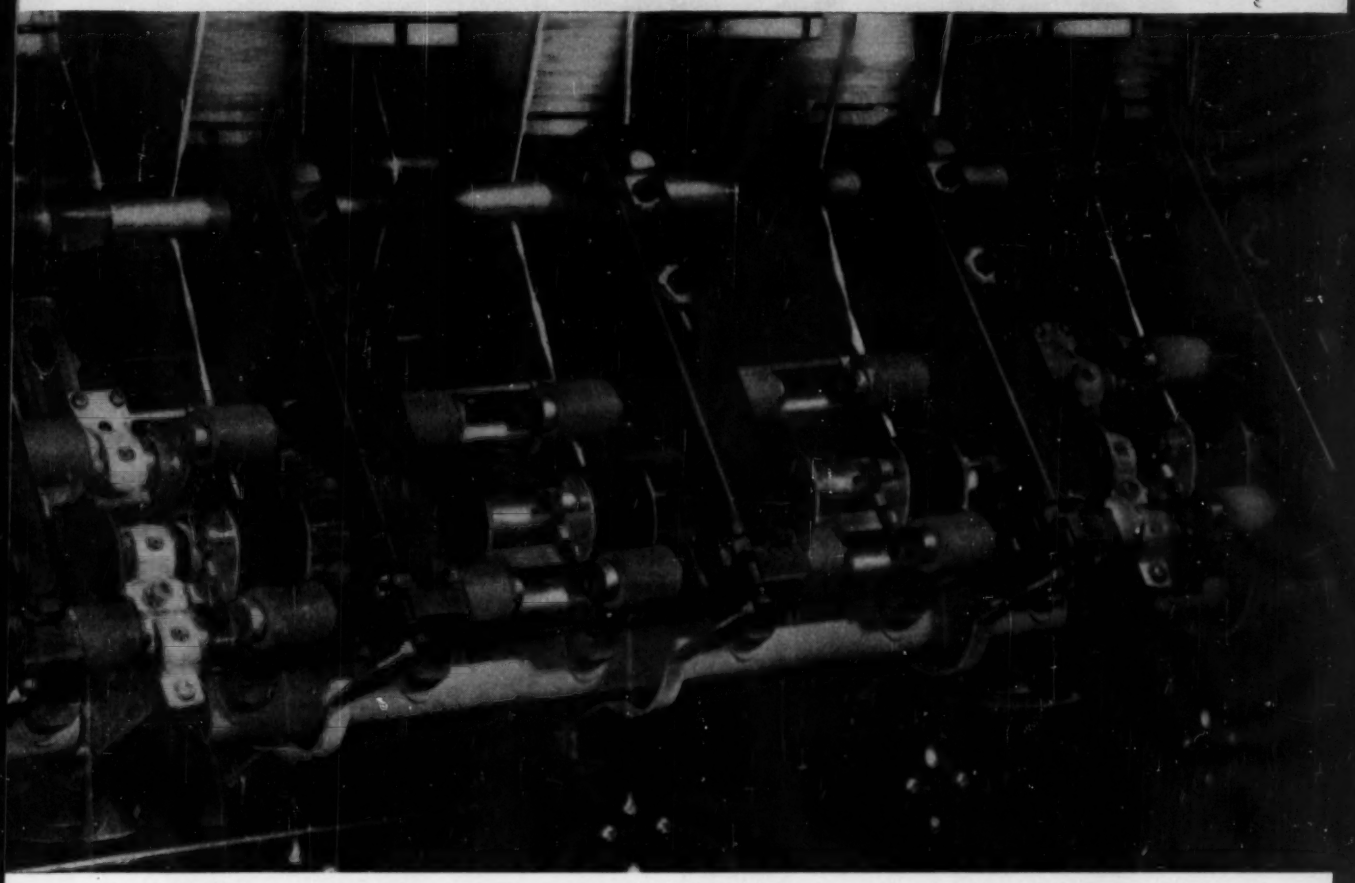
WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



Won't stretch New NO-7876 Accotex Apron has an interliner of straight-lined cords that prevent apron stretching or curling. Two thin layers of specially compounded synthetic rubber sandwich this core.



Accotex NO-7876 Aprons are used in bottom position on this modern high-draft frame. Accotex NO-7075 Aprons are running in top position.

Get superior spinning and long life with this new Accotex Apron

To spin high-quality yarn on long-apron systems, you need a super-flexible apron that has the right frictional characteristics on each surface. To get these qualities, more and more mill men are switching to thin-wall Accotex NO-7876 Aprons.

Two entirely new rubber compounds were developed for this apron. The rubber on the outer surface has the right fiber handling properties to insure good yarn control. And, where top aprons are used, this surface will drive them without slipping.

The inner surface has a coefficient of friction low enough to allow the apron to run smoothly over the nosebar without tucking or jamming. This surface also conforms well to the drive roll knurling, assuring accurate tracking and full power transmission.

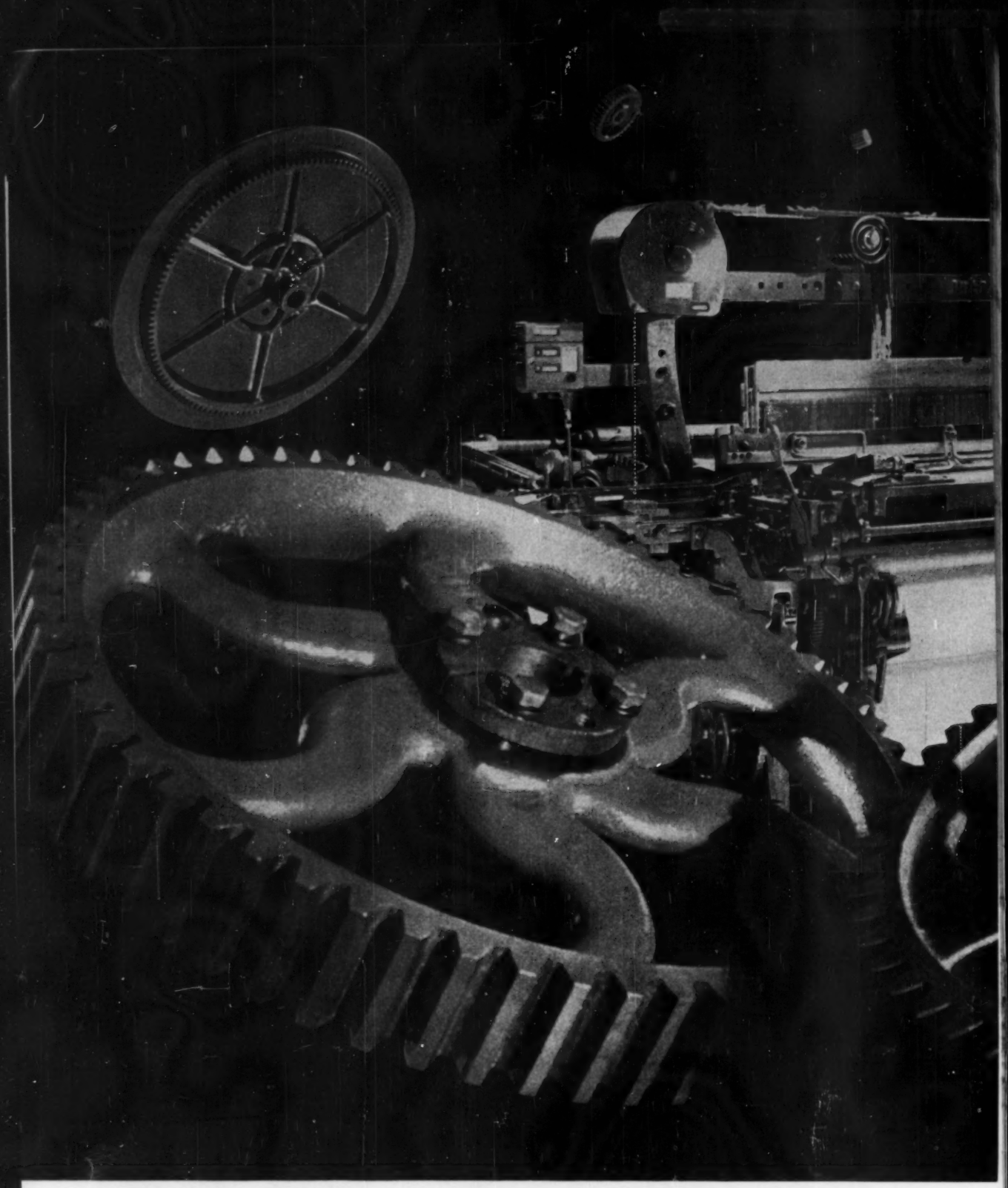
In addition to excellent spinning performance, the new rubbers give the NO-7876 much improved resistance to abrasion and to ozone and flex cracking. As a result, these aprons have run in some mills for three years—and are still in excellent condition.

Try the new NO-7876 Accotex Aprons on your own frames soon. See for yourself how smoothly they run . . . how they help improve yarn quality. Your Armstrong representative will help set up the test. Call him or write to Armstrong Cork Company, Industrial Division, 6412 Dauphin St., Lancaster, Pennsylvania.

Armstrong ACCOTEX APRONS

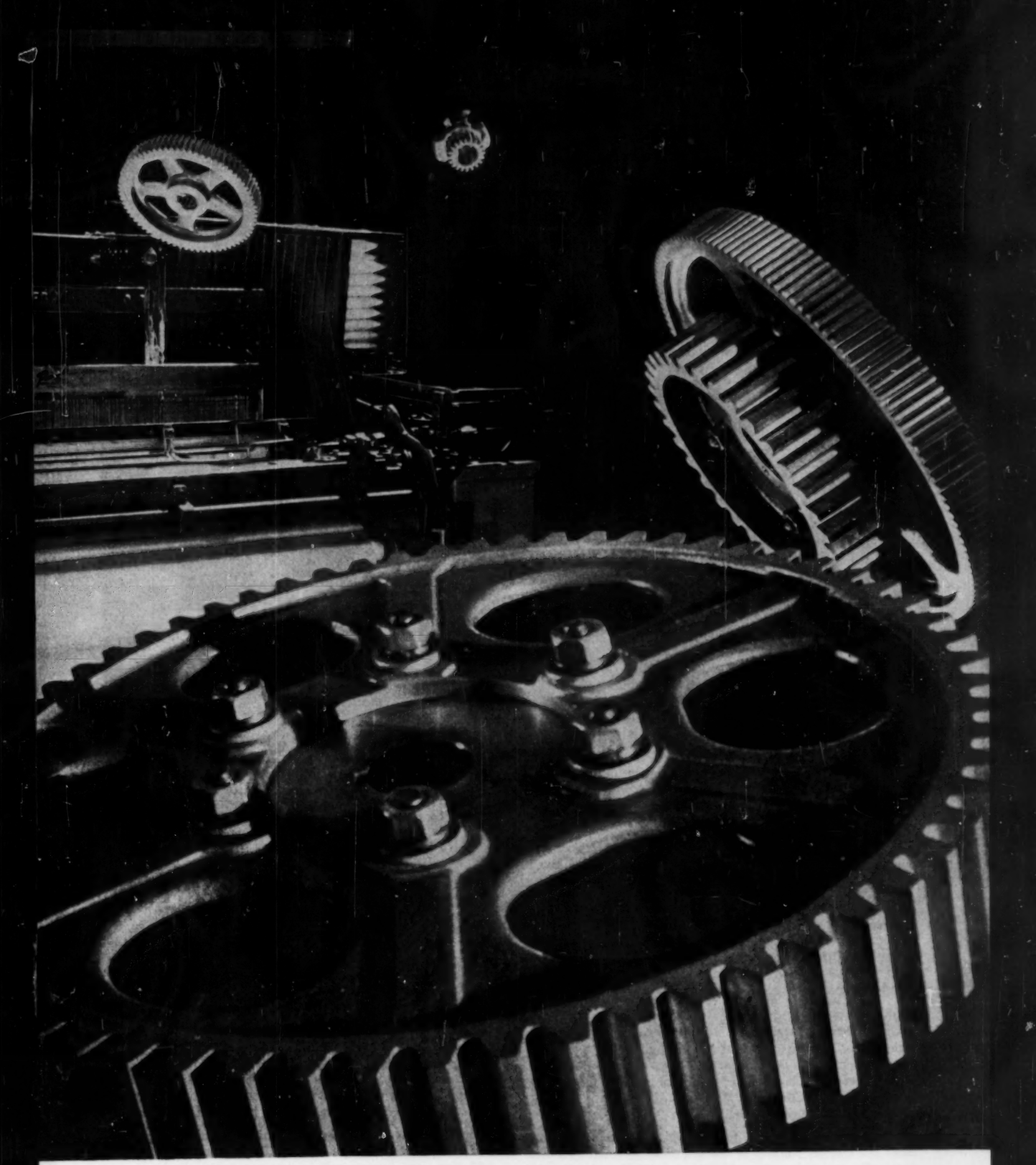
. . . used wherever performance counts

CIRCLE 41 ON READER SERVICE CARD



There are over 30 gears on a Hi-Speed Draper X-2 Model Loom*. Each is of a different shape and size, and contributes in some way to the efficiency and operation of the loom. Draper gears are designed and manufactured to

*Average X-2 Model



fit the Draper Looms in your mill. Draper gears cost less . . . because they wear longer, reduce down time and increase loom production.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

TWO NEW LOW-COST SYSTEMS IBM 1401 CARD... IBM 1401 TAPE

with stored program speed and ability

Never before has so much powerful data processing ability been built into such low-cost systems! For in these two new IBM 1401 Systems you get features previously found only in the larger data processing systems. With 1401 Systems fewer machine units do *more* jobs . . . at *higher* speeds . . . with *greater* accuracy and reliability . . . at *lower* job cost.

To assure you of more production per data processing dollar, IBM's concept of Balanced Data Processing gives you compatible input, processing and output speeds, backed by unequalled customer service. Drawing on all the experience gained in developing the world's largest and fastest computers, these low-cost 1401 Systems bring you these large computer features:

Solid State Design—and transistorized throughout to give you a compact system with greater accuracy and reliability. This powerful system involves no special construction . . . no air conditioning.

Stored Program—gives you the fully automatic processing of electronic systems. It is the key to simplified, economical operation. Completely flexible, a stored program permits you to switch easily from one type of job to another.

Magnetic Core Storage—the most powerful type storage available. To increase this power even further, the core memory of the 1401 accepts variable-length data and instructions, to permit the storage of only useful information. Choice of 1400, 2000, or 4000 positions of storage means you select the size storage to suit your needs.

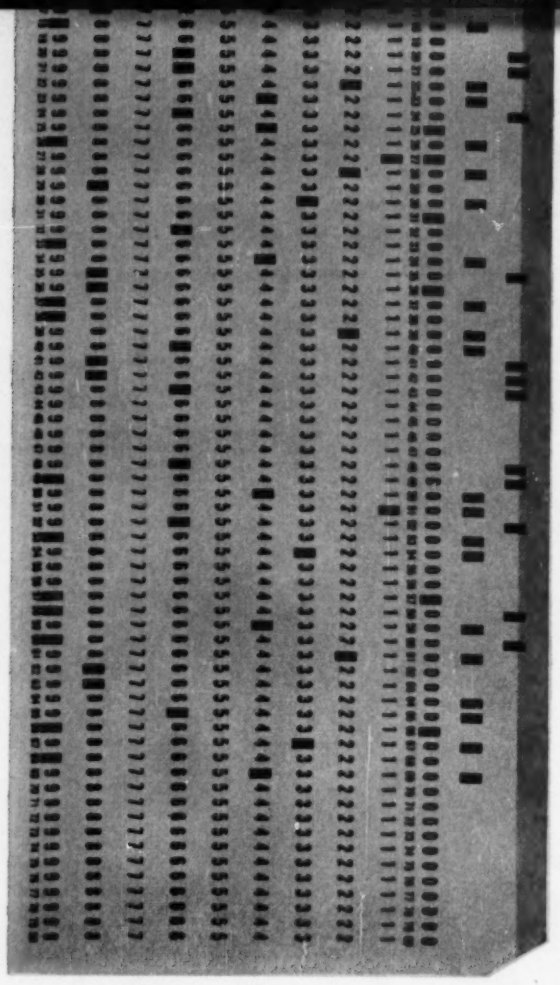
High-Speed Printing—these 1401 systems feature an exclusive new concept of printing. A horizontally rotating chain prints high-quality, perfectly aligned copy. A dual-speed carriage permits printing at the rate of 600 lines a minute, skipping blank paper at 27,000 lines per minute to produce more documents per dollar. Completely flexible editing and print format is provided by the central processor.

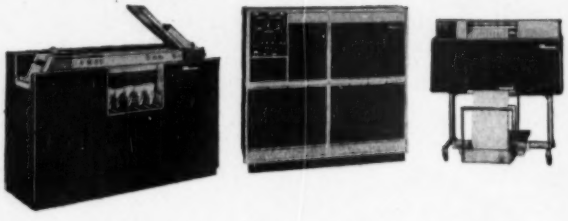
Your local IBM representative will explain the many applications and unusual features of the new 1401 Systems. Call him today. These systems, like all IBM data processing systems, may be purchased or leased.

BALANCED DATA PROCESSING

IBM

CIRCLE 44 ON READER SERVICE CARD





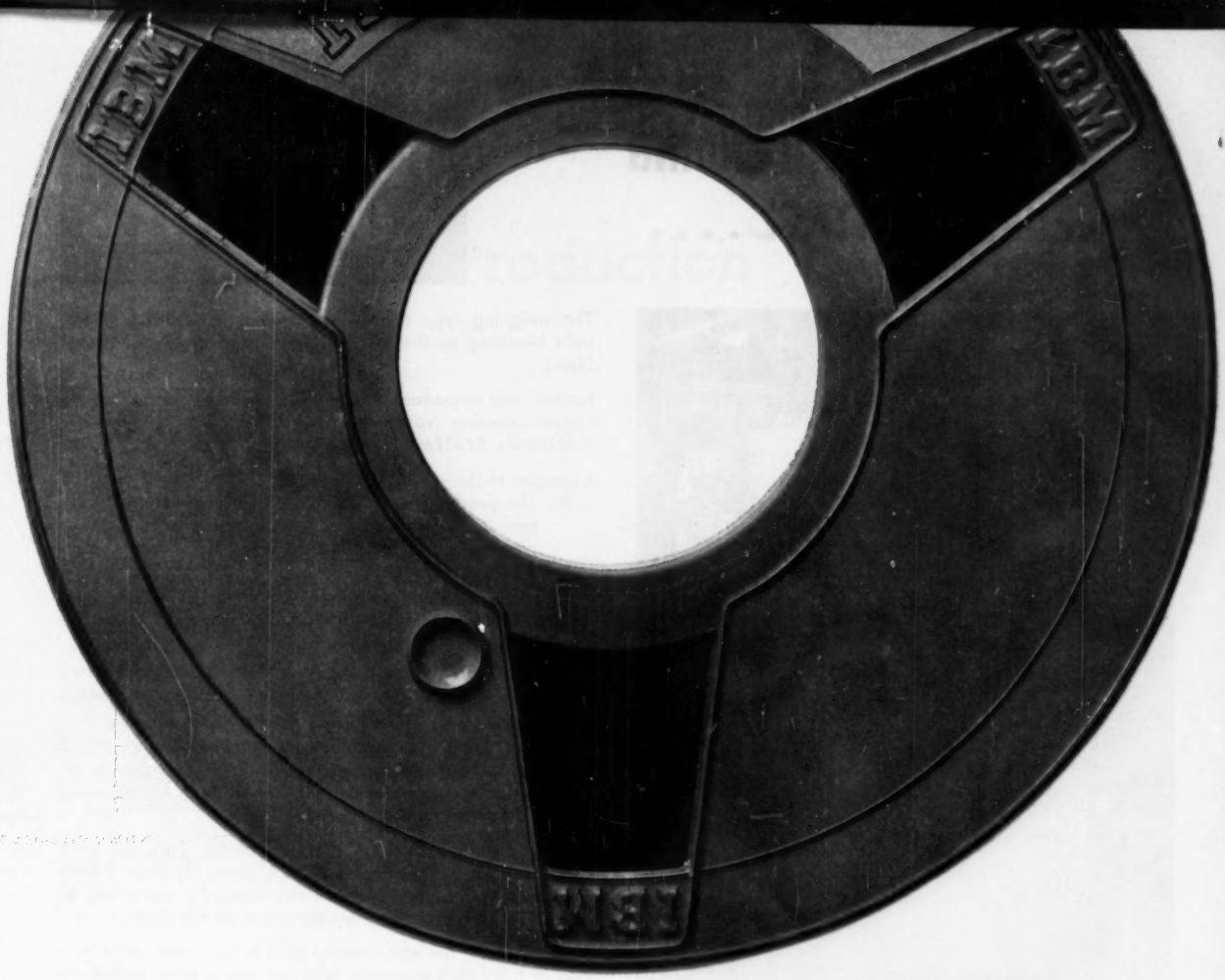
1401 CARD SYSTEMS

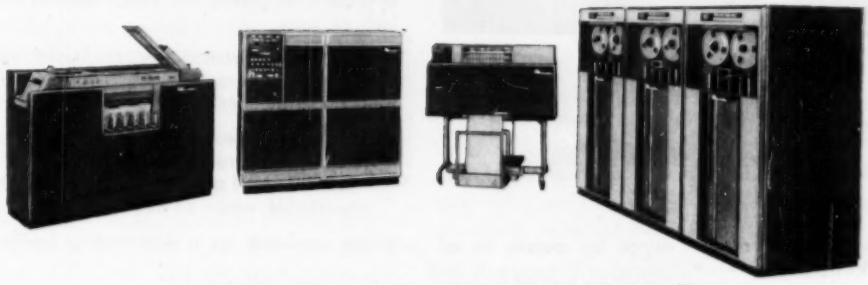
These stored program systems now bring the power of electronics to IBM card systems. They automatically handle the work of accounting machine, summary punch, and calculator, but at far greater speed, and with more flexibility and accuracy.

Input is faster—IBM cards are read into the system at the rate of 800 per minute. Data is processed automatically under stored-program control. Manual card handling is minimized.

Output is faster—documents are printed at the rate of 600 lines per minute, cards punched at 250 per minute. The system will turn out, for example, as many as 230 checks in one minute—again, more documents per dollar through Balanced Data Processing!

Thru-put is faster—data flow is automatically checked for accuracy and speeded all along the line. A unique Card Read-Punch combines card input, output, and summary punching functions. Five radial stackers accept cards that are selectively separated under stored program control.





1401 TAPE SYSTEMS

IBM 1401 Tape Systems give you added power through use of up to six magnetic tape units. These units feed data into the system at the rate of up to 62,500 characters per second . . . record processed results at this same peak speed.

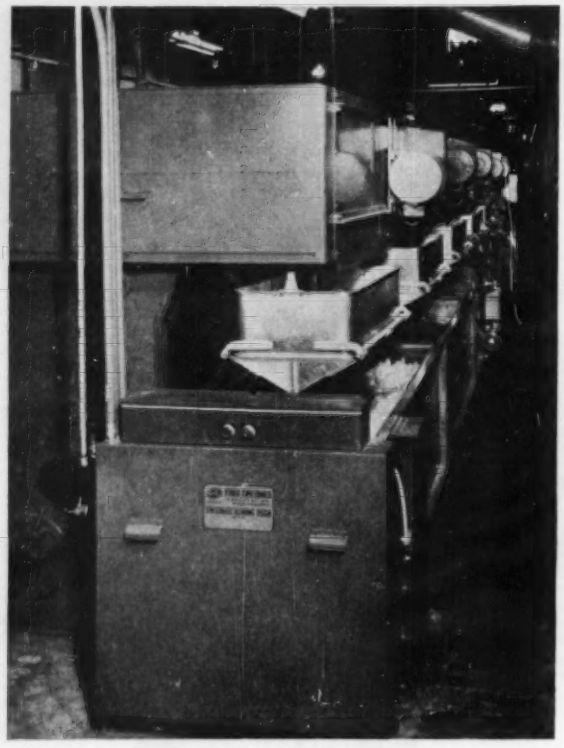
1401 Tape Systems are also extremely valuable as off-line auxiliaries to large data processing systems. They can edit tapes prepared for larger IBM systems. They make possible a tape-oriented IBM 7070 configuration that provides higher speed input and output and makes for job cost improvement.

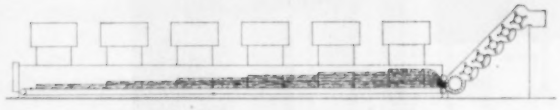
When tape units are added to 1401 Systems, you get greater flexibility and storage advantages, too. IBM tapes provide extremely compact storage of variable-length records—the equivalent of 129,000 IBM cards on a single reel. Tape records can be of variable length, and are read into and out of the system automatically. Also, tapes can be erased and re-used to minimize your record-keeping costs.

CIRCLE 45 ON READER SERVICE CARD

BETTER COTTON BLENDING by WEIGHT CONTROL....

FIBER CONTROLS





The weighing type feeder has proven its worth in many mills blending synthetic staple fibers and synthetic-natural fibers.

Extend this important factor of weight control into the cotton opening room with a 100% SYNCHROMATIC BLENDING SYSTEM.

Consider these significant facts:

A. The production in *5 seconds* of 6 conventional hoppers is *enough fiber for a yard of lap on each of 3 pickers.*

B. Each hopper pinned lifting apron during the 5 second interval will peel tufts *from the outside only* of the folded slab normally charged into the hopper.

C. The short term rate of stock flow—5 second interval by 5 second interval—from a standard volumetric hopper *can vary 300% by weight.*

D. The combined output of six hoppers during *any 5 second interval moves as an integral mass* in an orderly, continuous progression through the cleaning equipment to the pickers.

The conclusion should be that the blend, yard by yard of picker lap, is fiber representation primarily *from 1 bale per hopper* or *from 6 bales* in this example; not a mix of the 20 to 40 bales that may be open on the floor.

Accordingly, if the yarn quality goal is count size uniformity and inch by inch evenness, why not use a more systematic approach to getting an equal number of fibers inch by inch of yarn.

Install the Synchromatic System based upon the physical property of fiber density (Micronaire Fineness) or, for example, the number of cotton fibers per ounce of stock.

1. Lay down bales of the same fiber fineness within ½ point micronaire behind individual SYNCHROFEEDERS: i.e., 3.0 to 3.4 at 1st feeder; 3.41 to 3.80 at 2nd feeder, reworkable waste behind on the next feeder, etc.
2. Combine weigh pan dumps, ounce by ounce, in an accurate sandwich on a slow moving horizontal SYNCHROVEYOR. • • •
3. Cut vertical cross sections inch by inch through the sandwich with the fine pinned beater of the SYNCHROBLENDER. • • •

The result from actual experience can be a 25 % *reduction* in day to day variations, which means better yarn quality at higher plant efficiency.

No additional floor space, connected horsepower, or labor is required.

Write or contact us for further and more complete information.

U. S. Sales Agents: PARROTT and BALLENTINE, Inc., 3440 Augusta Road, Greenville, S. C.

FIBER CONTROLS CORPORATION

BOX 1358 *GASTONIA, NORTH CAROLINA*

Time To Cut Production

It is time to cut back textile production. Signs multiplied last month that mills have now entered a period of building up their own misery for next year.

First Step: Customer Inventories

• Sales pressure is now on gray goods, not finished goods.

Several weeks ago dyes and chemicals suppliers noted a significant slowdown in mill buying of finishing materials. Part of this drop might be accounted for by mills reducing their inventories of supplies, but market reports now strongly indicate that more is involved. Converters seem to be buying and contracting for more goods than they are finishing and selling, and mills are making gray goods at a faster rate than retailers are buying finished goods.

That means only one thing: the pipeline between the mill and retailer is accumulating inventory and overcommitting itself. Another word for that is speculative buying.

• Overbuying is occurring in gray goods that wind up in fabrics and garments sold directly to consumers. Industrial users, always less prone to speculation than converters, garment manufacturers, and brokers, are not putting pressure on the market. In fact, some mills last month switched production from industrial constructions to consumer constructions to get in on the speculative spree.

• Caution about overproduction is being thrown to the wind.

Besides the mills that switched from industrial to consumer fabrics, some mills, notably several printcloth mills, went from five days a week to six days a week. A year ago, and particularly two years ago, some of the men who made these decisions were making speeches about "we have to show a little self-restraint."

Next Step: Mill Inventories

Mass psychology is at work. As in the stock market after a long rise, a very small thing could send the speculators scurrying in the opposite direction. The thing that would do it quickest is for these operators to see the slightest sign that the supply of gray goods is increasing.

With mills stepping up production from five to six days and others switching to speculative goods, these signs are likely to be seen soon.

Mills, refusing to learn the lesson of inventories and seeing their warehouses empty, will continue to run. The inevitable result will be increasing mill inventories, dropping sales and prices, lower profits—and a great deal of complaining about bad business.

Goods Finished Is the Key

It does not take a forecaster or statistician to see where we now stand and where we're headed. Speculation takes place in gray goods, not finished goods, because garment prices are traditionally fixed in what is called "price niches" and styles and colors change too fast for anyone to gamble heavily on finished-goods inventory.

Speculation therefore occurs in gray-goods inventories among converters first and then mills, as can be seen from this table:

	Mill Activity	Mill Sales	Mill Inventories	Goods Finished
1954	100	100	100	100
1955	110	109	106	112
1956	110	109	108	110
1957	107	108	117	105
1958	104	104	112	99

These indexes, all based on government figures, with 1954=100, show that goods finished is the prime mover. They swing rapidly and sharply in response to purchasing by retailers for consumer sales.

The fiasco of 1957 and 1958 for mills occurred only when mills built up a gray-goods inventory completely out of line with the goods being finished.

The Present Situation

That is exactly what is threatening now.

Inventory build-up has hit the next group of speculators, the group between mills and retailers. It is only a matter of time until the build-up starts in mills—and a short time it is.

We heartily recommend that all the speeches made 24 months to 18 months ago on "self-restraint" and the "tragedy of overproduction" be read again today.

A. M. Thomas

South Texas Cotton

Properties	Early Season 1954	1955	1956	1957	1958	5-yr. average	1959	Mid-Season 1959
Grade index	1.01	1.02	1.01	1.03	1.03	1.02	98.8	99.2
Staple length (1/32-in.)	32.3	33.4	32.2	33.6	32.8	32.9	32.4	33.2
Upper-half mean (ins.)	1.04	1.04	0.99	1.02	1.01	1.02	1.03	1.01
Uniformity ratio	80	81	82	80	78	80	77	78
Micronaire value	4.5	4.3	4.1	4.3	4.3	4.3	4.6	4.4
Maturity (%)	80	79	77	79	78	79	80	79
Tensile strength (1,000 psi.)	78	80	84	82	81	81	81	79
Manufacturing waste (%)	7.2	8.1	8.2	8.2	7.5	7.8	7.8	8.2
Neps (per 100 sq. ins. of card web)	12	6	15	11	17	12	10	14
Yarn skein strength (lbs.)								
22s	106	116	113	118	116	114	118	118
50s	36	38	39	42	40	39	40	39
Average break factor	2,080	2,240	2,200	2,240	2,280	2,190	2,300	2,240
Yarn-appearance index	100	109	105	109	99	105	98	98

FIBER PROPERTIES in some instances are better than the five-year average. Yarn break factor and Micronaire value are up, early-season waste is down, and maturity is average.

South Texas Cotton— Good Quality, High Yield

USDA fiber and spinning tests on early- and mid-season cotton show that in comparison with the five-year average—

- Break factor is up
- Micronaire value is higher
- Yarn appearance is off

THE BREAK FACTOR FOR 22S YARN spun from early-season 1959 cotton harvested in South Texas averages 2,300, the equivalent break associated with cotton stapling about 33.5 thirty-seconds of an inch.

The staple length actually averages 32.4 thirty-seconds, a full $\frac{1}{32}$ in. lower than the length associated with this break factor. But in terms of yarn strength and cotton price, this bountiful crop should be a good buy for mills.

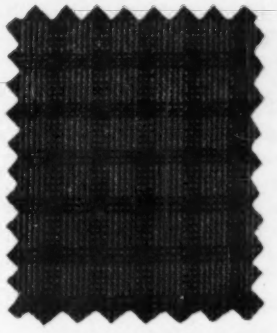
The early-season crop is characterized by a good average Micronaire value along with its excellent breaking strength. The Micronaire value averages 4.6, compared with the five-year average of 4.3. This fineness apparently was a factor in holding neps down to an average of 10 per 100 sq. ins. of card web.

Other fiber properties in 1959, such as upper-half mean length, maturity, and tensile strength compare favorably with the five-year average. Manufacturing waste at 7.8% is the same, a little lower than that usually found in Middling cotton. The 1959 cotton grade is slightly lower than Middling; the five-year average is Middling plus.

Only minor deficiencies are found in the early 1959 cotton. Fiber length uniformity is off a little as compared with previous years. Yarn appearance is down to 98 as against 105 for the five-year average. This reduction is probably associated with the lower length uniformity in 1959, which may cause increased ends down in spinning.

The mid-season South Texas cotton has a slightly lower break factor than the early-season lots. Most other values held up pretty well as the season advanced, and an excellent yield was indicated.

Lightweight Men's-Wear Fabrics



One of the most important developments in men's wear is the trend to lightweight fabrics, usually blends of wool with polyester or acrylic fiber. Here the editors of TEXTILE WORLD—

- **Report on how two New England mills teamed up to dye, spin, and weave a 6.3-oz. worsted-acrylic fabric for spring**
- **Outline a checking program to keep down seconds in weaving lightweight suiting**

Two New England mills are producing 6.3-oz. 50% worsted and 50% Zefran blends of 2/70s yarn in men's suitings, sports coats, and slacks for spring.

The yarn producer is Argonne Worsted Co., Woonsocket, R. I. The weaver is Mayflower Worsted Co., Kingston, Mass.

Patterns are fine glen plaids, plain weaves, checks in twill weaves, plain warp stripes, and warp stripes in fancy harness patterns.

Widths are 58 ins., but wider fabrics are being planned. Colors run from medium to dark shades. The 2-den. fibers are all top dyed.

Heavier 50-50 worsted-Zefran blends are also being woven in plain weaves and checks in 6.6, 8.5, 8.8, and 9 oz. Most of these colors are olive and olive-mixed shades.

Top Dyeing at Argonne

At Argonne Worsted Co., Zefran stock is carded on conventional worsted cards. Then the raw top is dyed in either stainless-steel or wooden dye kettles; wood kettles are suitable because no pressure is needed.

Two types of dyes are used: (1) selected fast direct colors or (2) premetallized colors. Colors range from medium through very dark shades. The dying time cycle is 3 to 5 hrs., with the longer time for darker colors.

Dye temperature is 210° F. The tops are wrapped in knitted cotton fabric, and each package is placed on a spindle.

Immediately after the Zefran top is dyed and before it is blended with the worsted top, it is given an aftertreatment consisting of backwashing, antistatic treatment, drying, and first gilling in a single continuous operation.

Yarns Run Better in Manufacturing

The antistatic treatment was developed by Argonne especially for the Zefran fiber and insures good manufacturing in the subsequent spinning and weaving operations.

The antistatic equipment is four spray heads behind the backwasher at the last bow before the squeeze roll. A displacement pump near the spray heads meters the antistatic agent accurately, and compressed air sprays all tops passing through the aftertreatment processing line.

Two antistatic lubricant combinations used are: (1) Worsted-12 and (2) Catanac-S.N.

After the tops go through the squeeze roll, they contain 30% moisture.

Then the tops are dried in a conventional apron dryer that gives two complete passes to the tops.

As the tops come from the dryer, they are given their first gilling as part of the over-all operation.

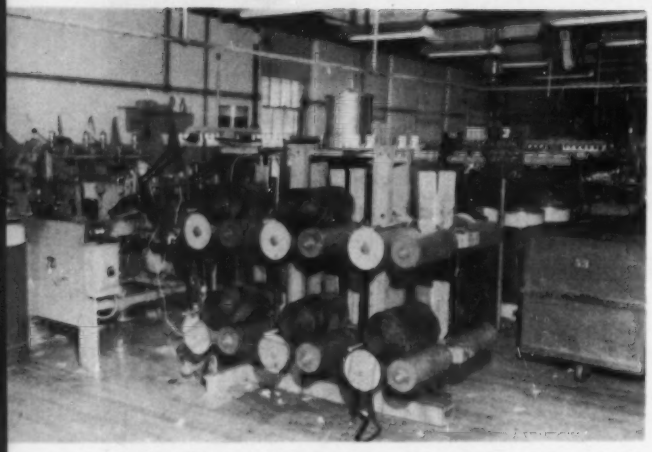
Dyed Tops Are in Good Condition

Tops are not distorted by this thorough dyeing and rinsing cycle, and color reproduction is very good.

At this point the Zefran yarn and worsted yarn are combined in a gilling operation to blend them. A successive gilling operation places the blended tops on bobbins. Then the top is combed in a French-type comber and is put in a sliver can.

Another gilling puts the combed sliver on 14-lb. packages in top form, and the packages are taken to the spinning department.

Spinning at Argonne



PIN-DRAFTER DRAFT at three operations is 7.4, 7.3, and 7.1. Doublings are five, six, and four.

In spinning, a gilling with a doubling of 10 ends is given. This operation is followed by a second gilling with a doubling of two and with a draft of six to seven.

Then three operations through pin drafters follow: (1) doubling of five (the yarn number limits the number of doublings), with a draft of 7.4; (2) doubling of six, with 7.3 draft; and (3) doubling of 4, with 7.1 draft.

Sliver Evenness Is 97%

The resulting sliver is 240 grains per yard. Evenness at the end of the pin drafting is 97% or above.

This sliver is further processed at roving frames at 940 rpm. with no doubling. Draft is 14.4.

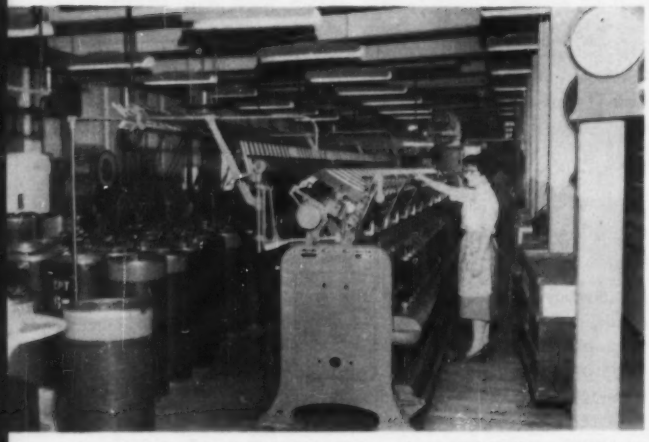
At the spinning frame, spindle speed is 5,400 rpm. and front-roll speed is 110 rpm. The traveler number is six, seven, or eight as determined by the shade of the yarn. Draft is 13.8 and 15.

The two-ply yarn is given 16.7 tpi. in spinning and is placed on 3¼x8-in. bobbins with a bore of 1¼ ins.

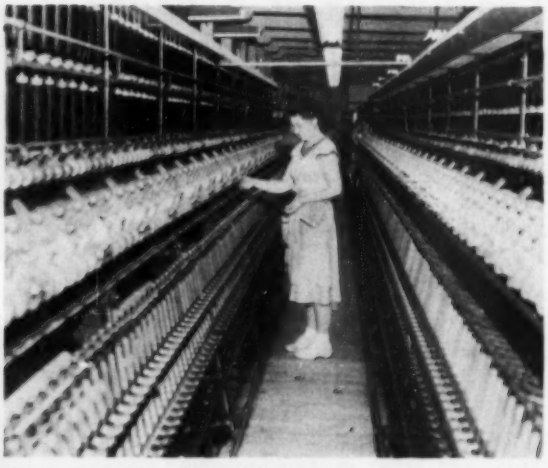
From the spinning frames, the 2/70s yarn is taken to doublers where it's wound to large packages.

From doublers, the yarn is taken to twisters where 19 to 21 tpi. are inserted. Then the yarn is rewound from twister bobbins to 3½-lb. cones.

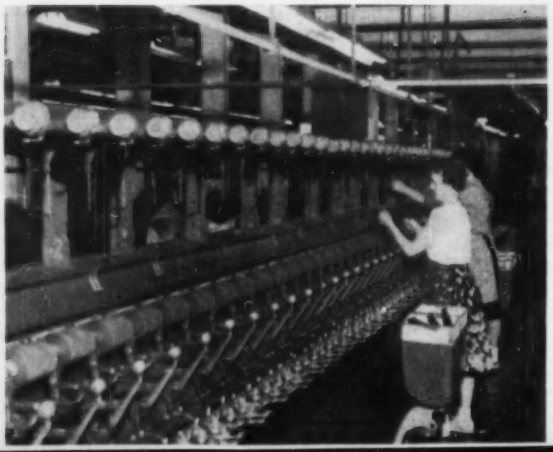
These 3½-lb. cones of yarn are delivered to Mayflower Worsted Mills for weaving as filling yarn, or they are rewound on jack spools that have 48 ends and weigh 35 lbs. for warp yarns.



ROVING-FRAME DRAFT is 14.4, and speed is 940 rpm. There's no doubling, and work runs well.



SPINNING-FRAME DRAFT is 13.8 and 15, front-roll speed 110 rpm., and spindle speed 5,400 rpm.



DOUBLING follows spinning to rewind yarn for larger packages for subsequent twisting to 19 to 21 tpi.

Weaving at Mayflower

At Mayflower, the Zefran-worsted fabric is run side by side with other fibers and fabrics in weaving. No special humidity conditions are needed.

Filling yarn is rewound from the original 3½-lb. packages to 8¾-in. loom bobbins on automatic winders at 5,000-rpm. spindle speed.

Warp yarns are dressed on Mayflower's regular equipment in the same way other equivalent yarn numbers of other fibers are handled. Warps containing 14,000 yds. of yarn are made from the average jack spool.

Warps are drawn in just as regular worsted warps are drawn: while the drawing-in hand is drawing the warp ends through the harnesses and reeds, a second girl is dropping the open-end drop wires on the yarn ends.

Warps are retied at the looms with a motorized tying-in machine that ties the complete warp in a single sheet.

Weavers Run Eight Looms

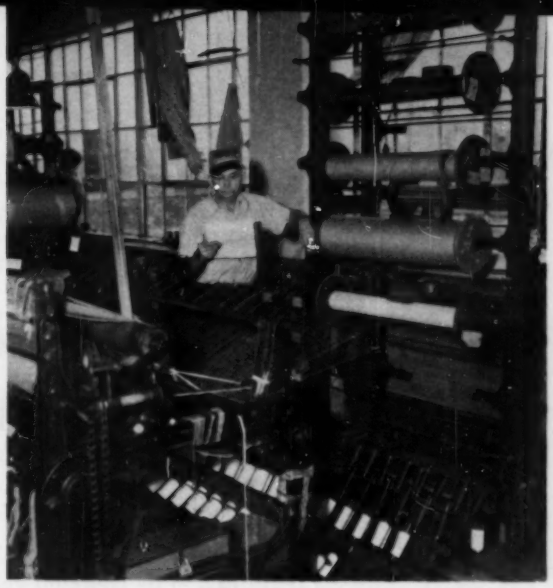
Weavers tend eight W-looms and fill their own magazines. A filling boy places the filling on the loom.

Looms run 135 ppm., and efficiency on the Zefran-worsted fabric is 90%, which is the over-all average for all fabrics woven.

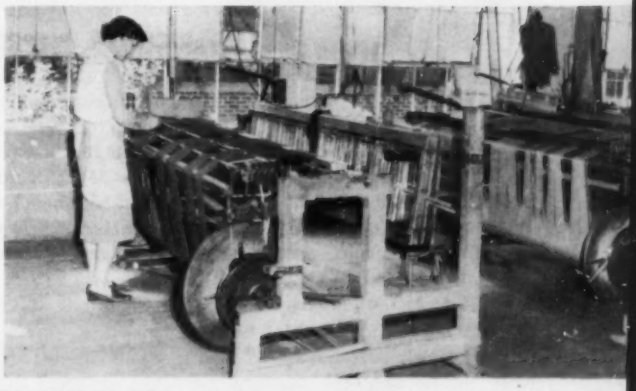
A typical fabric construction is: plain weave, four rows of drop wires, eight harnesses, 3,264 warp ends, 58 ins. wide, one to four colors of filling, 54 ends per inch, 63 ppi., 2/70s yarn in both warp and filling, and 6.3 oz. per yd.

Loom settings for a plain weave, for example, are: (1) harnesses cross 2 ins. before the fell of the cloth, (2) harnesses run one up and one down in contrast to the four up and four down for most worsted fabrics, and (3) two steel lease rods in an end-to-end lease are secured between the drop wires and whiproll.

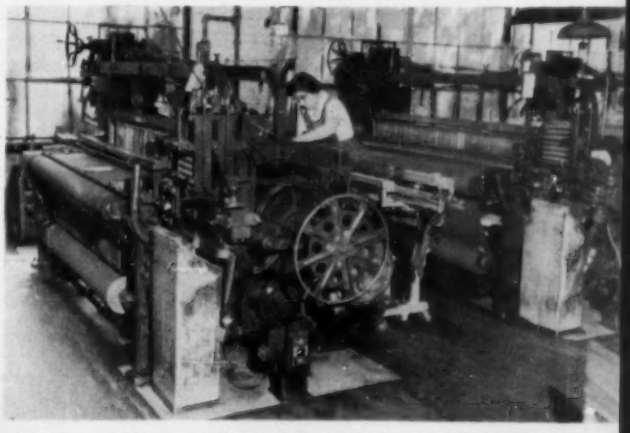
In finishing, Mayflower follows the old English practice of scouring before fulling. And all finishing is done on conventional American machines.



YARN DRESSING starts from jack spools from the spinning mill. Spools weigh 35 lbs. and have 48 ends.



DRAWING-IN follows Mayflower's usual practices. One girl drops on drop wires while a second girl draws in.



LOOMS run 135 ppm. Weavers have eight looms and fill their own magazines. This warp is being retied.

MENDERS use Magni-Focus to mend small places in all fabrics. Zefran-worsted blends mend more easily than all-worsted fabric.

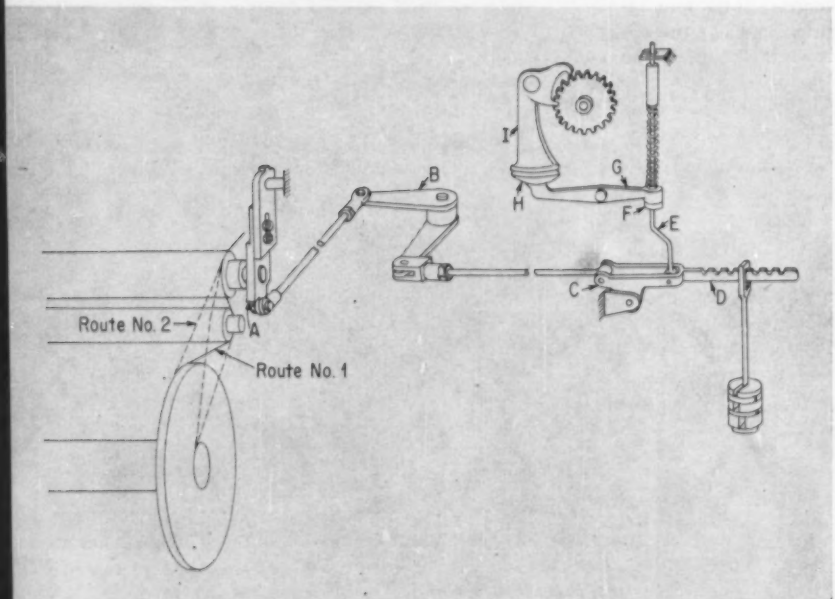
Check Your Loom Let-Offs To Weave Lightweight Suiting

• A new style of 6-oz. suiting fabric can run as high as 16% seconds from thick and thin places and wavy cloth. But these defects can be held to 2 to 3% by checking your let-offs before the warp is tied in the loom. Here's the checking program—

By **RICHARD B. PRESSLEY,** Senior Associate Editor, TEXTILE WORLD

THE SWITCH FROM HEAVIER ALL-WOOL FABRICS to the newer wool-and-man-made-fiber blends of suitings as light as 6 oz. often causes a big run of second-quality cloth. Seconds from the newer, more-popular blends like 55% Dacron and 45% wool or a 50-50 blend of Zefran and wool can be very expensive.

Many of these seconds come from the let-off if it isn't prepared for the lighter fabrics. A chain-driven fully automatic let-off demands little attention on heavy fabrics; but on lighter fabrics, a mechanical-breakdown check is necessary at least every six months to prevent thick and thin places and wavy cloth.



CRITICAL LET-OFF PARTS are closely related in action; and if they're aligned squarely with the loom and turn freely without lost motion, they will run six months without major adjustments.

Let-off Is Very Simple Mechanism

Loomfixers often neglect this let-off because it looks complicated. But it's a very simple mechanism once it's studied closely for parts relation. Mechanical make-up and operation are more important than settings.

After the let-off is set correctly, little readjustment of settings is necessary until the next scheduled breakdown check. If the let-off is adjusted correctly, it is very sensitive to letting off; but if it's not adjusted correctly, it's very insensitive.

To understand the let-off thoroughly, you must first grasp the theory of its operations with emphasis on some of the points where trouble is most likely to occur. The motion is considered fully automatic for two reasons: (1) warp tension itself controls letting off and (2) the auxiliary whiproll keeps the angle of the yarn to the whiproll constant throughout a warp beam. Consequently, tension is always even.

Wear and Binding Are Big Trouble

Worn and binding parts are common all through a let-off that has been run indefinitely without attention. Parts most susceptible to wear and binding are whiproll bearings, auxiliary whiproll stands, whiproll stands, ratchet- and spur-gear bearings and stands, chain-driving cog, studs in tie-rod assemblies, and connecting rod and springs.

Other mechanical difficulties come from rust and paint on contact surfaces of stands and bearings that cause head-end and drive-end matching parts to be out of alignment with each other. This misalignment causes wavy cloth.

These parts must be removed from the loom, corrected mechanically, and then reset. This correction is necessary because the let-off doesn't actually let off—it only allows the warp beam to let off.

How Letting Off Is Done

The accompanying sketch shows important working parts of the let-off. Here's how these parts work together for correct letting off:

As the loom runs, the loom take-up is pulling the warp ends wound on the yarn beam.

Pressure in turn is built up on the warp yarn between the take-up and the yarn beam.

With this pressure, the whiproll swings inward to the loom from the pivot of the whiproll bearing.

The whiproll bearing is set square with the tie rods to insure maximum leverage.

With the whiproll stand and tie rods *A* set correctly, here's what happens:

1. From its lower end, the whiproll bearing transmits its inward motion through a tie rod to the angle lever *B*.

2. The angle lever reverses this motion from a push to a pull. Then the angle lever pulls on the upper part of the weight lever *C*.

3. The weight lever oscillates several degrees about the lower pivots and raises its notched end *D* to push up connecting rod *E*.

4. Collar *F* on the connecting rod is raised, which raises the back of the friction lever *G*. At this point, the weight lever is exactly horizontal when the collar just touches the underside of the friction lever. Because of this maximum efficiency in leverage and sensitivity, letting off is very even.

5. Because the friction lever is pivoted near its center, it lowers the brake shoe *H*. Then ratchet lever *I* oscillates. This oscillation of the ratchet lever lets the ratchet turn clockwise and through a gear train also lets the yarn beam turn to let off yarn.

With these settings, the yarn lets off freely and consistently because the brake shoe releases on every pick of the loom instead of sitting still for a few picks and then letting off for several picks erratically.

Let-off Must Be Torn Down

Because it's difficult to inspect bearings, studs, and other let-off parts with the let-off on the loom, it must be completely disassembled for checking.

But be careful not to touch the driving chain with your hands as it is being removed because the chain often jumps when tension is released from the beam and a serious hand injury can easily result.

After all parts are removed from the let-off, clean them thoroughly in a container of solvent and wipe them dry with rags. Parts can be inspected properly only if they are thoroughly clean.

Very often cleaning is all that's necessary to stop a part from binding and to return it to proper operation.

Inspect all whirolls, auxiliary rolls, bearings, and studs especially well because they are the most critical parts of the entire let-off. Discard worn parts so that any two parts fitted together don't have over 1/64-in. lost motion.

Replace Least Expensive Parts

Over-all rebuilding cost can often be kept down by replacing bushings instead of machined parts.

After parts are reassembled, be sure to lubricate them well to prevent future wear.

Be sure to clean rust and paint off the loom frame and let-off parts so that matching parts on each end of the loom align properly.

Tie rods and studs don't wear readily; so freeness from foreign matter such as hard-packed grease and dirt are the most important maintenance. But they must be lubricated properly.

The weight-lever assembly is a critical wear point, and therefore it must be inspected carefully for excessive wear.

The driving-gear and chain assembly are especially sensitive to binding. Carefully filing studs and polishing them with emery cloth insure proper operation. The chain-driving cog and spur-gear combination must turn very freely throughout 360° rotation.

Friction Lever Governs Action

The movement of the friction lever is one of the most important functions of the let-off. Even if all other parts are working correctly, a binding lever can make the complete let-off work wrong. The friction lever must be set to release the friction on the shoe as soon as the weight lever is lifted $\frac{1}{16}$ to $\frac{1}{8}$ in.

The whiproll must be set level at both ends and at the correct height for the fabric being woven; usually it is set level with the breastbeam. This setting forms a true warp shed in the reed. But for a better face on the fabric, the whiproll is often raised slightly above the straight line.

The length of the tie rods controls the movement of the whiproll by its position to the whiproll. For easy setting, it's best to make a table to show the length of rod needed for every style category in the mill: (1) light construction, (2) medium, (3) medium-light, (4) heavy, and (5) medium-heavy. Determining factors in the length of tie rods are the filling number and picks per inch.

Fewer Weights Make Better Cloth

Use as few weights as possible on the auxiliary friction band without damaging the ratchet teeth of the let-off.

You'll have fewer thick places in the cloth at loom stops and the let-off will operate more accurately if the main controlling weights are at the let-off weight lever.

Use as few weights as possible on both the weight lever and the friction band to reduce set marks, wavy cloth, and strain on warp ends. The let-off will also work more smoothly.

But don't run too little weight or temples will not hold properly and over-all cloth appearance will be poor.

Rings and Travelers Feature Alabama Spinning Discussion

The Alabama Textile Operating Executives recently swapped views and processing data at Alabama Polytechnic Institute. Subjects covered include—

- **Modified rings and travelers**
- **Balloon-control rings**
- **Drafting systems for spinning**

Rings and Travelers

Most of the reporting mills said that antiwedge spinning rings and plated travelers generally give good service but offer few real advantages over conventional equipment.

Mill A—"We spin 30s and 40s warp and filling from 1⅛-in. SM combed cotton. Twist multiplier is 3.95 to 4.08, ring size 1⅞ ins., bobbin 9 ins. traveler speed 5,695 ft. per min., gauge 3¼ ins., and draft 30. A No. 1 flange, ⅝ circle, split-back traveler is used.

"We have observed no changes in yarn quality or ends down. Traveler life is 288 hrs. Break-in intervals for rings is (1) 30 mins., (2) 1 hr. for 8 hrs., (3) 24 hrs. for 5 days, and (4) 1 week for 6 weeks. No wear is apparent after a year's operation.

"The plated travelers give us higher speeds with the same end breakage and traveler cost. The changing cost is lower."

Mill I—"We use plated travelers to spin 34.5s warp and filling from $1\frac{3}{32}$-in. SLM Bright combed cotton. Twist multipler is 4.35 for warp and 3.60 for filling, ring size 1½ to 2 ins., bobbin size 9½ to 10 ins. for warp and 8¾ ins. for filling, and humidity 50%. Traveler speed is 5,230 to 5,750 ft. per min. for warp and 3,700 ft. per min. for filling.

"We had no changes in ends down when we changed to plated travelers, but traveler life increased from 168 to 528 hrs. Traveler speed remained the same, and yarn quality did not change.

"Plated travelers groove about the same as regular travelers but do not show signs of burning. Plated travelers seem to come off more frequently than regular travelers."

Mill N—"We spin 1-in. and $1\frac{1}{16}$-in. SLM carded cotton. Both antiwedge and regular No. 2 flange 2½-in. rings are used to make 13.50s yarn with 16.57 tpi. Traveler speed is 5,519 ft. per min., humidity 52%, package size 6.7 oz., and draft 19.3.

"The antiwedge rings we first tried were replaced with regular rings because we had to change to coarser yarn than is recommended for these rings. Our experience is too limited for any conclusions; but we see no difference in ends down, traveler life, or ring life at present."

Balloon Control

Only three mills reported on balloon-control rings. One report was unfavorable, one favorable, and one made no commitments.

Mill K—"Our experience with balloon-control rings was not good. We had more ends down, ends were hard to put up, and the spinner could not put up ends at all when the bobbin was nearly full. The doffer had to do the job.

"Doffers did not like the rings because of increased ends they had to put up and because the rings interfered with doffing. Rings frequently were broken or bent during doffing. Fixers did not like the rings either."

Mill O—"Our balloon-control rings are an integral part of the spinning frame and give us increased spindle speed. We've had no experience with balloon-control rings installed on a conventional frame."

Drafting Systems

Several mills gave processing data as related to different drafting systems. Typical reports:

Mill C—"We have Saco-Lowell frames with Roberts drafting and Gwaltney frames with Shaw drafting. Stock run is 1-in. carded and $1\frac{7}{8}$-in. combed cotton. Humidity is 45 to 55%, hank roving 1.54 and 1.25, and twist multiplier 2.65 to 3.50. Double-creeled 10x5 roving is made into 8s to 24s combed and carded yarns.

"The Roberts change-over gives more-even yarn; the Gwaltney frame with Shaw drafting gives better strength. Ends down are higher on the Gwaltney frames. We run a higher humidity around the Gwaltney frames."

Mill G—"We use the Duo-Roth drafting system on ⅞- and $1\frac{5}{16}$-in. carded stock. Spinning frames are 3-in. gauge, humidity 48 to 50%, hank roving 0.52, and twist multiplier 3.50 to 4.75. Single-creeled 12x7 roving is made into 10s to 20s yarn.

"Compared with Roth drafting, there was some decrease in ends down. Yarn strength was slightly better in drafting up to 38. We are shifting to a 10% lighter roving, which runs better on the lighter yarn numbers."

Mill J—"We added the Cole apron-drafting system to our H&B frames with good results. Ends down were reduced, break factor for 8.8s yarn went up from 1,840 to 2,162, CV dropped from 20 to 16%, and yarn appearance improved from C+ to B+."

Mill M—"We changed from Casablancas to Tru-Set drafting. Ends down decreased 25%, breaking strength increased 10%, and unevenness decreased 10%. Relative humidity is 50%, twist multiplier 4.00, and single-creeled hank roving 0.72. We spin 15s warp yarn from 1-in. cotton."

Granular Carding Interests Alabama Operating Executives

Fifteen mills representing nearly 1-million spindles participated in the carding discussion at the fall meeting of the Alabama Textile Operating Executives held at Alabama Polytechnic Institute, Auburn, Ala. Subjects covered include—

- Granular carding
- Card clothing
- High-compression calender rolls
- Weight and variation control

Granular Carding

Although only a few mills reported on the subject, much interest was shown in the new SRRL granular carding system that eliminates the use of flats.

Mill B—"We produce a 57-grain sliver at 13 lbs. per hr. from 1-in. LM cotton on cards equipped with metallic clothing and the granular top. Sliver quality appears to be as good as that produced by metallic- or fillet-covered cards with top flats.

"There is no appreciable difference in nep count, loading, and sliver variation. Yarn strength, variation, and appearance are comparable with yarn made on conventional machinery. Cotton delivered by the granular card averages 96.4%, compared with 94.9% from cards equipped with regular top flats.

"A comparison test of metallic-clothed cards (flat speed 1¼ ins. per min.) with granular cards showed:

	Metallic	Granular
Evenness		
Card	2.15%	2.15%
Breaker drawing	3.90%	3.81%
Roving	7.3%	7.3%
Warp spinning	15.8%	16.2%
Neps	21	23
Yarn number	20.35s	20.37s
Breaking strength	88.18 lbs.	86.27 lbs.
Break factor	1,794	1,757

Less Waste Is Produced

Another mill reported from the floor that its granular card is producing 97.9% sliver as compared with 93.9% for conventional cards. Waste taken out was said to be as follows:

	Conventional	Granular
Front waste	0.67%	0.53%
Cylinder strips	0.8	0.57
Flat strips	2.6	0
Motes	0.65	0.52
Fly	0.19	0.63

This mill further reported that after running the granular card for three months, the web became flaky and the granular adhesive had to be replaced.

Card Clothing

A number of mills reported on the use of metallic clothing, hardened-point clothing, split-wire flats, and reduced flat speed. Comments in general were favorable with reference to each item.

Mill A—"We run 1⅛-in. SM cotton at 7 lbs. per hr. and produce a 59-grain sliver on metallic clothing. The card is stripped and chokes are pulled every two weeks. We grind as needed; some cards have been running 2½ to 3 years without grinding.

"Quality is very much better except for more selvage chokes in the card web. Loading is about the same as for conventional cards. The nep condition is so much better that we use the stock entirely for filling yarns."

Flat Speed Is Reduced

Mill B—"We reduced flat speed from 1¾ to 0.4 ins. per min. on cards with metallic clothing and experienced no increase in nep count, no decrease in yarn strength, and no increase in sliver or yarn variation.

"Cotton delivered in the can is 96.9% for the slower speed as compared with 94.9% for the higher. Flat strips are reduced 1% and contain a much lower percentage of long fibers and a larger percentage of short fibers and trash."

Mill C—"When we slowed our flat speed from 3 to 1½ ins. per min., our knitting-mill customers started complaining about lint accumulating on the knitting machines and winders. We had the same trouble at our winders. We run 1- and $1\frac{1}{16}$-in. SM cotton and make a 57-grain sliver at 9 lbs. per hr.

"We have two cards with hardened wire. One has been running six months without grinding; the other has been ground once. Variation of the sliver is good. We have fewer neps, less card waste, and no shedding or loading when we use this wire."

Mill F—"We have three cards with split-wire flats on which we run four cotton mixes ranging from 1-in. M to a waste mix of strips and SGO cotton. A 70-grain sliver is made at 9.75 lbs. per hr. We strip every 2 hrs. and 40 mins. and grind every 300 hrs. The split-wire flats improve sliver quality, reduce neps, prevent loading, and improve yarn quality.

"Our 18 cards with hardened wire produce better-quality sliver and fewer neps because the wire stays sharp. There is less downtime for grinding. We grind every 600 hrs., and grinding time is 1½ hrs. Wire is ground very lightly.

"We also have some cards equipped with metallic wire. Grinding interval is about three years on the cotton mixes and one year on the waste mixes. We strip every 24 hrs.

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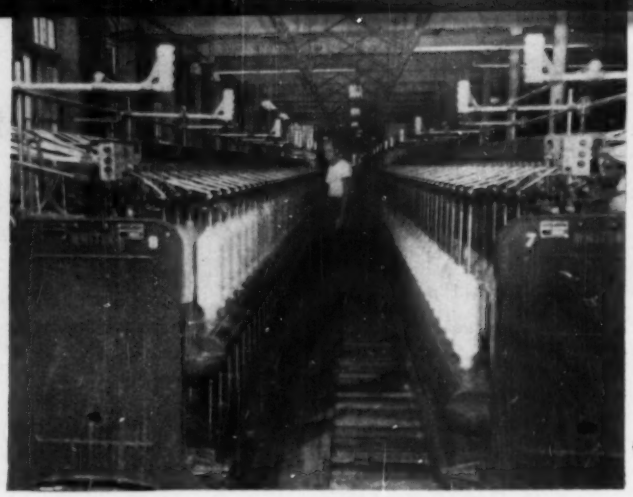
NEW DRAWING FRAMES with 72 deliveries are running 350 ft. per min., and 16x42-in. cans hold 34 lbs. of 62-grain sliver.



NEW ROVING FRAMES with 86 spindles produce 75 oz. of roving on 14x6½-in. bobbins. A complete doff goes into one truck.

Fulton Spends $1-Million To Gain

• Early this year, Fulton Cotton Mills started a $2-million modernization program that's now at the halfway point. The bulk of this money was spent in yarn manufacturing, but changes in the finishing operation for new products are perhaps more significant.

THE $2-MILLION MODERNIZATION PROGRAM begun by Fulton Cotton Mills, Atlanta, Ga., the first of the year is halfway completed. This program marked the end of a 90-year-old tradition at Fulton when the company changed its name from Fulton Bag & Cotton Mills and discontinued making bag goods as its main fabric. The new name more accurately reflects the company's present operations.

With the rapidly declining textile-bag market, the company's sales of industrial fabrics had been increasing just as rapidly. To provide for this accelerated growth, Fulton has made extensive changes in yarn-manufacturing machinery and weaving and has streamlined and enlarged its finishing departments.

One of the most significant changes in Fulton's new program is its finishing operation: three years ago, most of the fabrics processed were converted in Fulton's own plants. Now 95% of finishing output is for consumption by Fulton's customers.

Sales Turn to Industrial Fabrics

Starting with the bale of cotton, Fulton's completely integrated operation turns out woven and finished fabrics ready for Fulton's customers to use in products such as items for autos, mattresses, books, tarpaulins, furniture, luggage, rugs, textile bags, industrial towels, and many other products.

In the cotton mill, modernization has resulted in reducing spindles by over 7,000 while retaining the same capacity of yarn per 120-hr. work week.

At present, Fulton has two main cotton mills. All modernization is toward two objectives: (1) to make No. 1 mill a complete yarn mill and (2) to make No. 2 a complete weaving operation. Therefore most work has been done in No. 1 mill to prepare for later work in both mills. At the end of the halfway modernization period, No. 1 mill is completely rearranged.

At this writing, relatively little has been done in opening; but this department is the next scheduled to be modernized.

At present, each mill has its own picker room; but No. 1 mill will supply both mills at the end of the modernization program. The No. 1 mill picker room was rearranged, one beater section was added, and all pickers were put in a single line.

Cards Are Modernized

Cards were reclothed extensively; and for evaluation, 26 were clothed with metallic clothing.

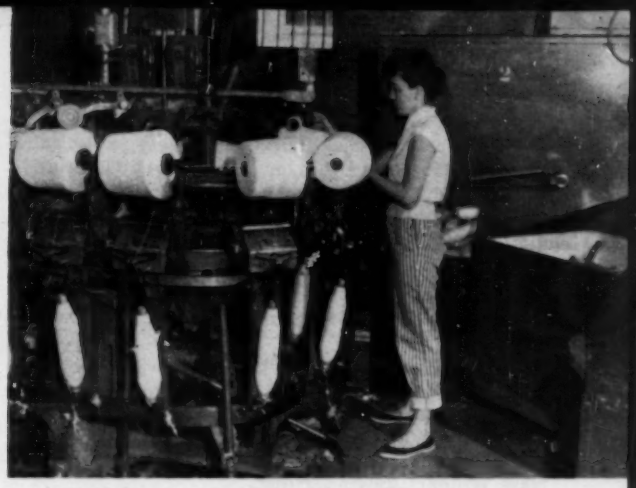
Card coilers and cans (12x36-in.) have been replaced by 18x42-in. cans with 40-lb. sliver capacity. Cards produce 13.5 lbs. per hr.

All machinery in the fourth-floor card room was relocated except a few cards. Floors were sanded, sealed, and finished. Old humidifiers were replaced with new atomizers. A new power line from the power house was also brought in for individual drives for all drawing and roving frames.

Older-model cards were junked, and 66 cards were moved from the No. 2 mill. Full production was maintained during moving and overhauling of the card-room machinery.

New high-speed drawing on the fourth floor has 72 deliveries. Speed is 350 ft. per min. at present and work runs well; but because the frames are overproducing card output, speed will be reduced to 300 ft. per min. Drawing sliver is 62 grains on all frames except one that is a special mix of 48 grains. Drawing cans are 16x42 ins.

REBUILT SPINNING FRAMES are being inspected by J. A. Bradshaw, head of the machinery committee, and L. A. Smith, foreman.



NEW WINDERS are for coarse filling of 3s to 7.7s. Quillers in the same room rewind the yarn to 8¾-in. bobbins.

New Markets

and doff at 34 lbs. The old machines ran at 175 ft. per min. and used 12x36-in. cans.

Ten new roving frames have 96 spindles each and doff 14x6½-in. bobbins of 0.40- and 0.65-hk. roving. A 75-oz. bobbin has proved to be the best weight for Fulton's roving, although experiments have been made on heavier packages. Flyer speed is 680 rpm.

Formerly there were 224 deliveries of double-process drawing, and now there are only 72 deliveries of single-process.

Roving Has Electric Stop Motions

These frames have electric stop motions and overhead frame cleaners.

Special trucks designed for Fulton are used to doff roving bobbins. Handling a complete doff of 96 bobbins, the trucks have two open ends with the bottom slanting inward. Only 100 of these boxes are required to supply the entire mill, and they are pushed directly to the spinning room.

Twelve roving frames on the third floor of Mill No. 1 were overhauled. Four Model J-3 frames were equipped with ball bearings on lifter shafts and other parts, and drives were changed.

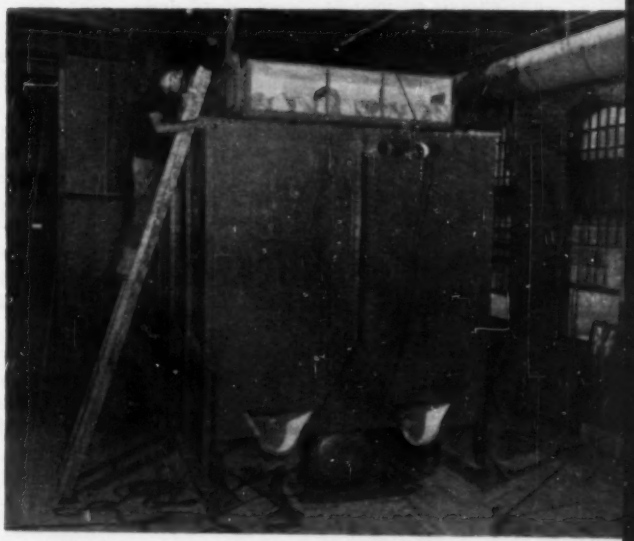
Eight older 12x6½-in.-bobbin roving frames were overhauled, ball bearings were added, and compounds were changed to chain drives. These frames produce 0.40-, 0.65-, and 1-hk. roving.

Roving spindles in the over-all mill were reduced from 2,398 to 1,776.

Spinning Frames Are Rebuilt

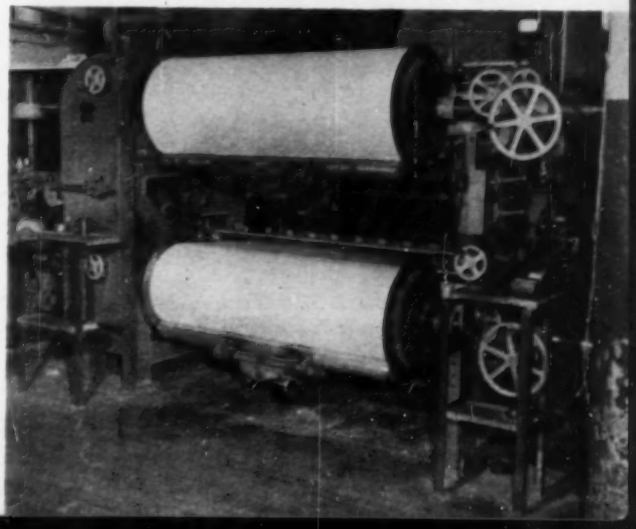
No. 1 mill has 99 rebuilt warp spinning frames, all on the fifth floor. Extra-long draft change-overs were installed, all bottom steel rolls were reworked, and umbrella creels were added. New overhead frame, floor, and ceiling cleaners were also added.

Start-stop push buttons are at positions around the frame, and there's a safety switch at the head end to



STARCH BIN being installed holds 40,000 lbs. of bulk starch, a two-week supply at the mill. Starch is delivered by motor truck.

TWO HEADS were added to this slasher to produce two beams of lightweight warps. Production is now 100 to 150 yds. per min.



prevent accidents from promiscuous starts.

Front-roll speed is 126 to 176 rpm., and draft is 17 to 24.

There are 48 spinning frames of 3-in. gauge with extra-long draft for filling yarn of 7.7s to 26s. This yarn is spun directly to filling bobbins. Bobbin packages are 8¾x1½ ins.

For coarse filling yarns to be rewound, 24 4-in.-gauge warp spinning frames were rebuilt for 12-in. paper-bobbin packages. These frames have new antifriction spindles, cap bars, nebs, and oilless saddles. Yarn number ranges from 3s to 7.7s.

These frames also have the latest-type overhead cleaners with both blowing and vacuum action for cleaning the ceiling, frame, and floor.

Over-all spinning spindles were reduced 6,720.

New Winders Rewind Filling

Three winders and six quillers were added to rewind all coarse filling yarns of 3s to 7.7s. This equipment handles all yarn from the 24 4-in.-gauge spinning frames.

All changes including moving of old machines and installing new machines were made during mill operation without loss of over-all mill production.

Second on Fulton's priority list of future expenditures is the slasher room. But already several new pieces of equipment have been added where they count most.

The most important addition in slashing is a bulk-starch handling system, the first in the area that receives starch from a motor truck. The only mill equipment is a 40,000-lb.-capacity bin and a screw conveyor running from this bin to a slurry tank.

With the system, Fulton is saving in three ways: (1) unloading the boxcars, (2) further inplant handling, and (3) the difference between bagged and bulk price of all starch used.

Based on Fulton's former consumption of starch per year and the savings in labor costs, the bulk machinery will pay off in 3½ years.

Heavy-duty headstocks and tailstocks have been added to the four slashers Fulton plans to keep in the future. These slashers also have new creels and drives. A double head was added to one slasher that runs light warps to double output.

Considerable savings were made in maintenance by adding Sizeometers.

Weaving modernization to date has been limited to loom rebuilding and better layout of looms.

Two groups of 40-in. E-model looms have been completely overhauled. The looms were already motorized, and electric warp stop motions were added. One group of these looms was changed from 22-in. warp beam heads to 28-in. heads.

A group of 72-in. L-model looms was also overhauled. Formerly the looms had double beams of 18-in. dia. Now they have a single beam of 22-in. dia. and were changed from a ratchet take-up to a worm take-up. Speed was increased 5%.

A third group of looms, 238 54-in. E-model belt-driven looms, was motorized and completely overhauled. As the looms were replaced in the weave room, they were spaced so that 28-in. warp beams can be used. Only nine looms were lost in the rearrangement. Speed was increased 14.5%.

Other Mill Has New Equipment

For weaving narrow toweling, 40 22-in. E-model looms were overhauled with no change in speed.

Twenty-four D-model looms are being discarded. To replace them, 40-in. E-models are being widened to 64 ins. Then parts will be interchangeable with other E-model looms. These looms will weave light lenos, scrims, and light sheetings.

Stationary warp tying was eliminated in No. 1 mill and was replaced with two machines for portable tying. Now No. 2 mill does all stationary tying for both mills.

Equipment added in the cloth room is a brusher-shearer line, two grader-folder machines, and a specially designed inspection machine for scrim fabrics that's almost frictionless, to prevent fabric distortion.

In No. 1 mill, there's a new low-pressure air compressor for mill humidification that greatly reduces the cost of compressed air. The humidification system can be switched to the high-pressure system in emergencies.

Although up to this point Fulton has made more major changes in manufacturing than in finishing, there have been some significant improvements in the bleaching, printing, and dyeing departments.

The two-stage continuous bleaching range has been rebuilt, and modern stainless-steel washers have replaced the old-style log washers originally installed. Level controls have been added to the caustic feed on the first stage and peroxide feed on the second stage. These controls have saved money on chemical costs and helped in producing more-uniform work. Cost savings come from automatic shutoff of chemical feeds when for one reason or another it is necessary to stop the range during a run.

Fulton bleaches about 1-million yds. per week of toweling, print cloth, osnaburg, sheetings, drills, sateens, and tickings. Six four-ton kiers and a hypochlorite range supplement the production of the continuous caustic-peroxide range.

The plant has installed automatic guiders for the heavy continuous blankets that are used on the printing machines. This feature eliminates the almost constant atten-

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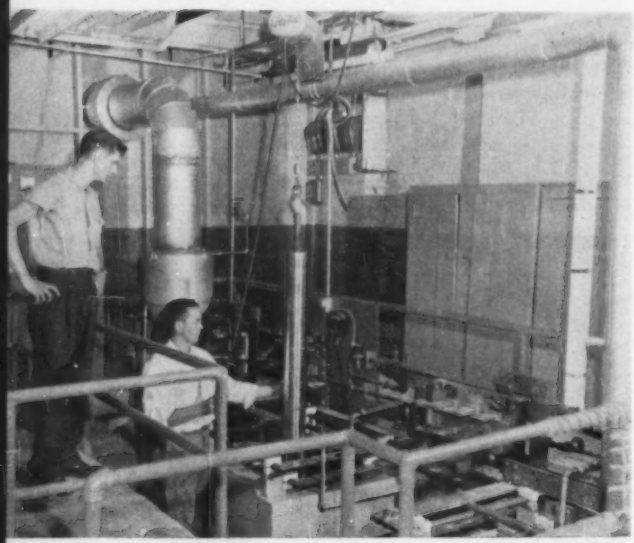

CHROME-PLATING PLANT for print rollers is a new venture that is paying off in reduced costs in the finishing plant.

Georgia Mills Improve Weaving With Better Work Practices

• Georgia mill men are looking with interest at the newest weaving equipment, and they're just as vitally interested in improving employee work practices for higher efficiency and better fabrics.

AT THEIR RECENT FALL MEETING AT GEORGIA TECH, men of the Textile Operating Executives of Georgia gave vital data on methods of weaving with existing equipment. But two questions asked show that the Georgia men are also greatly concerned with the relatively newer machines and equipment:

1. How do you train weavers and loomfixers on shuttleless looms?

2. Have you slowed down drums on Unifil loom winders?

The only mill reporting on its shuttleless looms did not have a formal training program for weavers and loomfixers.

One mill has slowed down the drum on its loom winders to one-half its former speed and has thereby reduced mispicks from one every 110 yds. of cloth to one every 140 yds.

Work Practices Are Stressed

In addition to discussing machines, the Georgia men spent a lot of time in talking about loomfixer and weaver training, weaver work practices, checks of weavers' daily efficiency, and upgrading loomfixers to limited supervisory work.

Two mills are using aptitude tests furnished by the Georgia State Employment Service in selecting trainees as weavers and loomfixers. One mill is getting very good results. The second mill's results are fairly good; but since this mill has eight different types of looms on both plain and fancy fabrics, its training problems are extremely difficult.

Two mills are selecting as loomfixer trainees only men who are high-school graduates.

14 Mills Have Training Programs

Fourteen of the 17 mills reporting at the meeting have training programs for weavers and loomfixers. Typical reports are:

Mill A—"First, a weaver trainee must be a good employee on his present job before he is selected as a trainee. Other important factors are his attitude, dependability, height, and determination.

"He is placed on the job with a skilled weaver who is also a good instructor. As the learner progresses, he is given as many looms as he can handle satisfactorily; the more experience he gets, the more looms he is given.

"His work progress is checked by the weaver-instructor; his supervisor also works with him part of each day. From this substandard job, the learner goes to a standard job when a set of looms is available.

"A loomfixer learner must have all the qualifications of a weaver learner; but in addition, he must be an outstanding weaver. The loomfixer learner is placed with loom overhaulers during his training period, where he gets experience on all types of our looms and all parts of looms.

"When he makes enough progress, he is placed with a skilled loomfixer who is also a good instructor. His work progress is checked each day by the instructor and his supervisor. When the instructor, supervisor, and overseer agree that the learner is ready for a section of looms, he is assigned to one."

Mill B—"Weaver learners are selected from cloth doffers, filling haulers, and smash hands. They are trained on a set of looms under the guidance of an experienced weaver for approximately four weeks.

"At the end of this period, they are given a few looms by themselves under the guidance of a weaver instructor.

"This instructor has as many as six learners at given times. This training program lasts for a maximum of nine weeks, and then the learners are classed as trained weavers.

"Learner loomfixers are selected from weavers, and they are trained in a classroom in the nomenclature of a loom. They also disassemble and assemble a loom under the guidance of an instructor. This period usually requires approximately four weeks.

"At the end of this period, these men are assigned to a section of looms under the control of an experienced loomfixer for approximately nine weeks. Then each learner is assigned to a section of looms for further training by the head loomfixer.

"We are now planning to start regular classroom training for both learner loomfixers and old loomfixers."

Mill C—"We have weavers on each shift that have been trained as instructors. Each new weaver learner is put with an instructor on the instructor's own job. The first week is spent in teaching the learner the fundamentals of weaving. Each weaver is given a set of instructions that covers most of the phases of weaving.

"At the start of the second week, the learner is given looms of his own, usually about 20% of a job. This percentage is increased each week until the weaver can run a full job.

"A weekly progress chart is kept for each learner; it shows the number of looms run, fabric styles, efficiency run, etc. The average training cycle is 12 weeks.

"Loomfixing classes are open to all our employees, and they're taught by an instructor with several years' experience. Trainees attend classes during their time off from regular work. Classes are 20 weeks per year. Only about 25% of the trainees finish this course. The best trainees are put with a loomfixer for further training after they finish the course."

Weaver Patrolling Grows in Use

Eleven mills require their weavers to patrol their looms. Patrolling programs are not as advanced in some mills as in others, but patrolling is a growing practice in two-thirds of the Georgia mills.

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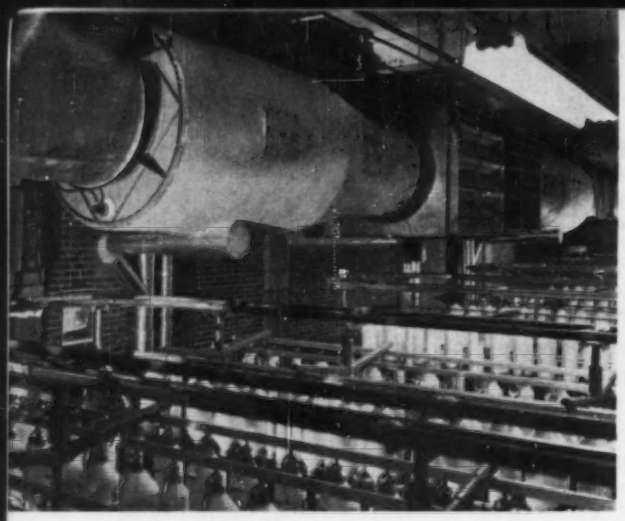


ALL UNITS are suspended from the mill ceiling. Here are two of the three units in cotton spinning.

YARN PREPARATION has three units for portions of two floors. Outside air comes through the window area.

New Air Conditioning

By installing 10 separate and complete air-conditioning units at its Mathews Plant, Greenwood Mills is controlling temperature and humidity closely in four production departments. In addition, the system—

- **Saved $60,000 in original cost**
- **Reduced cleaning time 80%**

By Z. H. OWINGS,
Air-Conditioning Engineer, Greenwood Mills

In 1957, Greenwood Mills invested heavily in plant modernization and machinery relocation at our Mathews Plant. In this mill we card, spin, and weave cotton fibers and spun man-made fibers.

As a result of our modernization, our existing air-conditioning equipment did not meet the increased temperature and humidity loads.

At our mills, we do our own engineering and construction. A study of our air-conditioning needs showed we needed the following conventional equipment, which we would construct ourselves:

1. Two three-story towers to house air-conditioning apparatus at a cost of $55,000
2. New duct work for distribution of air for extra long runs of approximately 100 ft. at a cost of $5,000

Older Equipment Caused Problems

But construction time for the proposed towers and duct work was so long that scheduled movement of production machines would be delayed with considerable machine downtime.

In addition, the necessary areas for locating the towers would use space planned for our next building expansion since only one wall will have to be built to enclose a new structure in this area.

In many areas, the proposed duct work would obstruct overhead cleaners, lighting, and materials-handling equipment.

New System Reduced Over-All Cost

We solved all these problems by installing a prefabricated factory-built assembly that eliminated the need for erecting additional towers. And with this system, over-all air-conditioning installation cost was reduced $60,000.

The system consists of 10 individual stainless-steel units that hang from our ceilings right in the production areas to be serviced. Each unit has a capacity of 30,000 cu. ft. per min. Installation time was only four days per unit.

Here's where the units are placed: three units on the third floor for man-made-fiber spinning, three on the second floor for cotton spinning, three for portions of two floors for yarn preparation including winding and quilling, and one unit for cloth-inspection and shearing departments.

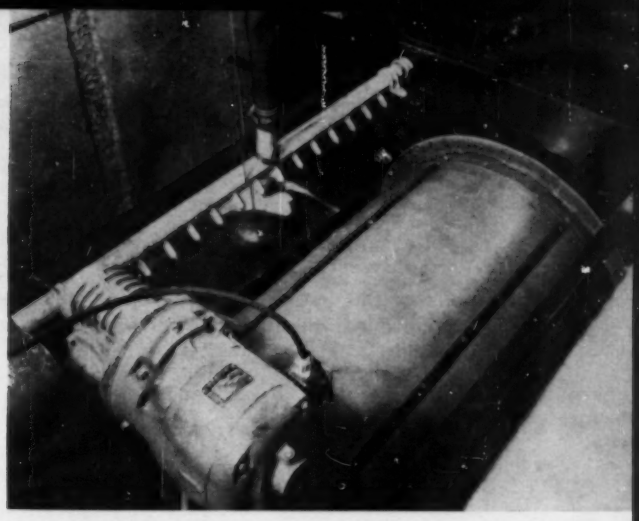
All Areas Have Uniform Condition

Over-all plant conditions with the new units are 82° F. temperature and 50% r.h. with minor differences in several locations.

Each of the 10 spray-washer units services approximately 3,900 sq. ft. of floor area. Each manufacturing area has uniform temperature and humidity because thermostat and humidistat controls are very effective; this uniformity is especially valuable when there's a partial shutdown of machines in a given department.

Units provide high saturation efficiency to put more moisture in each pound of air supplied initially. This higher saturation also gives cooler air.

CLOTH INSPECTION has only one unit, which also services shearing machines in the room below.



WATER STRAINER is fully automatic. Lint-laden water drains from a unit into the concrete tank for cleaning.

Helps Greenwood Mills

Cleaning cost has been reduced 80% over that of our old system. This reduction comes from the self-cleaning action of the equipment and the way we operate it.

In operation, outside air is drawn into the equipment either through a roof or wall duct. Each unit is 20 ft. long and 5½ ft. in diameter. It has two sections, one wet and one dry.

The outside air is mixed with lint-laden return air from the manufacturing area. An axial-flow fan at the entering side of the spray chamber directs the air mixture through several banks of spray nozzles to produce high-density atomized water.

Nozzles Are Largely Self-Cleaning

Lint and foreign matter are ejected from the orifice of each nozzle, which is made of synthetic rubber and consequently swells to become largely self-cleaning.

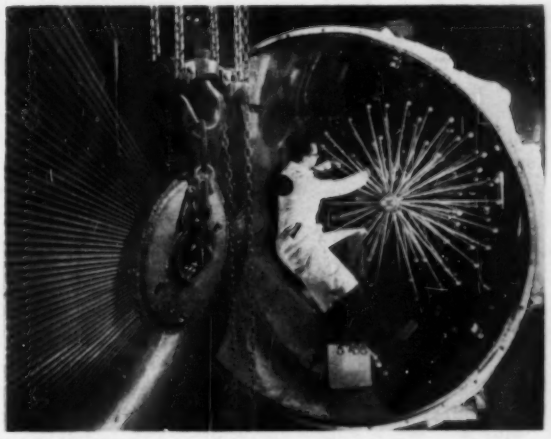
At the end of the spray chamber, a rotating eliminator wheel creates a wall against unvaporized water droplets and foreign particles; yet it passes conditioned air freely.

Water and entrained particles drain into a combination collection and separation tank where a cylindrical strainer automatically removes foreign matter for subsequent disposal.

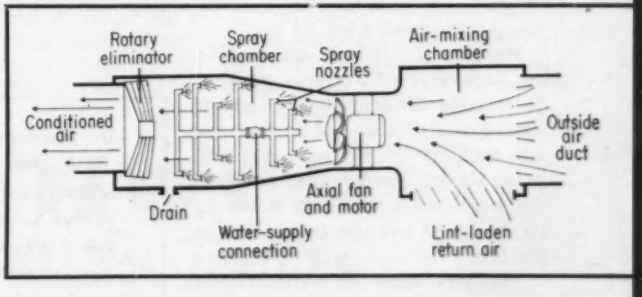
The rotating movement of the eliminator wheel prevents collection of lint on the wheel, which throws off lint by centrifugal force. Fan blades are also kept clean in this same way. All other interior portions are kept clean by the flushing action of the spray nozzles.

Cleaning is now done on a week-end basis but is extended over several weeks. As a result, given units go without cleaning for many weeks.

The water supply for all 10 units comes from a central supply pumped from the mill compressor room. Therefore if we decide to add refrigeration later, we will need only to add a water-chilling machine to the present water-circulation line.



EACH UNIT was installed at Greenwood Mills in only four days to minimize shutdown time.



CROSS SECTION of a unit shows how outside air and return air are treated for conditioned air.

Georgia Mills Standardize For Better Slashing Practices

Mill reports at this year's TOE show that mill slashing practices are becoming much alike with newer equipment in a majority of mills. The mills—

- **Run slashers up to 120 yds. per min.**
- **Retie up to 87,480 warp ends per shift**
- **Hold over-all yarn stretch at 2%**

IN THE SLASHING DISCUSSION at the recent fall meeting of the Textile Operating Executives of Georgia, 215 men from 17 mills told how they run their slashers and auxiliary equipment for best results.

Several mills are running the newer multicylinder slashers at speeds up to 120 yds. per min. with good results. One mill has a section-beam creel with positively driven beams.

The newer equipment in most mills is doing much to standardize slashing methods from mill to mill. As a result, the average answers to questions from any 6 mills are a good cross section to answers from all 17 mills.

How Mills Eliminate Size Slinging

Mills running multicylinder slashers from 90 to 120 yds. per min. have had trouble with size slung from squeeze rolls and immersion rolls. Here's how they have eliminated this trouble.

Mill A—"We minimize size slinging by keeping hard size cleaned off the ends of the squeeze roll. Our slashers have nine cylinders, and slashing production averages 900 lbs. per hr. Speed varies from 90 to 120 yds. per min., and starting speed is maintained throughout a set."

Mill B—"To reduce size slinging, our fixer designed a simple guard to go over the flange on the end of the yarn-wound squeeze roll so that size falls back into the size box. However, if the slasher operator does not keep the guard clean, hard size builds up on the guard and size trickles out of the box.

"Slashers have 10 cylinders, 14 section beams in the creel, 2 conventional size boxes, and yarn-covered squeeze rolls. On a 5,560-end set of 24s yarns, we run 91 yds. per min. and produce 1,500 lbs. of slashed yarn per hour."

Mill C—"We beveled the ends of our squeeze rolls ½ in. to prevent size slinging. We run 36-in.-dia. section beams. Speed begins at 30 yds. per min., and we maintain the starting speed throughout a warp set."

Mill D—"The best way to prevent size slinging is to have both the immersion roll and squeeze roll the same length and properly aligned. On old-type size boxes, we use guards on the rolls to eliminate slinging.

"We use ball-bearing section-beam creels, nine-cylinder slashers, and two size boxes. Production is 1,300 lbs. per hr. (at 100%) on 3,900 ends of 21s yarn at slasher speeds of 60 to 120 yds. per min."

Mill E—"We have our rubber-covered squeeze rolls covered so that they are ¼ in. shorter than the face of the bottom steel immersion roll. This underhang of ⅛ in. at each end of the top roll almost eliminates size slinging. We also add a splash guard behind the nip of the rolls to catch size that's slung from the steel roll.

"We use a conventional size box, slash up to 1,200 lbs. per hr., and maintain the starting speed all through the set."

Eight mills, just under one-half of all mills reporting at the meeting, are using portable machines for retying warps in the weave room. The machine itself is used only part of the time, with two mills using their machines at top efficiency of 70 and 75% of the time. Other mills use their machines less frequently, with the lowest efficiency at 15%.

One mill is presently tying an average of 15 warps every 8-hr. shift for a total of 87,480 warp ends. This mill has also ordered other equipment to improve its efficiency further.

Mill A—"We are tying an average of 15 warps per 8-hr. day with a portable machine; warps average 5,832 ends. The machine is in actual operation 340 mins. of an 8-hr. day, which is 70% efficiency.

"At present, we are losing a slight amount of production when the portable machine is compared with a stationary machine. But experience with better methods and additional equipment now on order will prevent much of the present downtime.

"One tying-in man cleans and greases looms at warp-outs. Two other men lease out the pattern, store the empty loom beam, put the full yarn beam in the loom, position the tying-in-machine frame, and lease out the new warp so that the two warps are ready to be tied together.

"Then the machine operator, a fourth man, sets up the machine and ties the warps. He leaves the warp for the second and third men to run over the knots."

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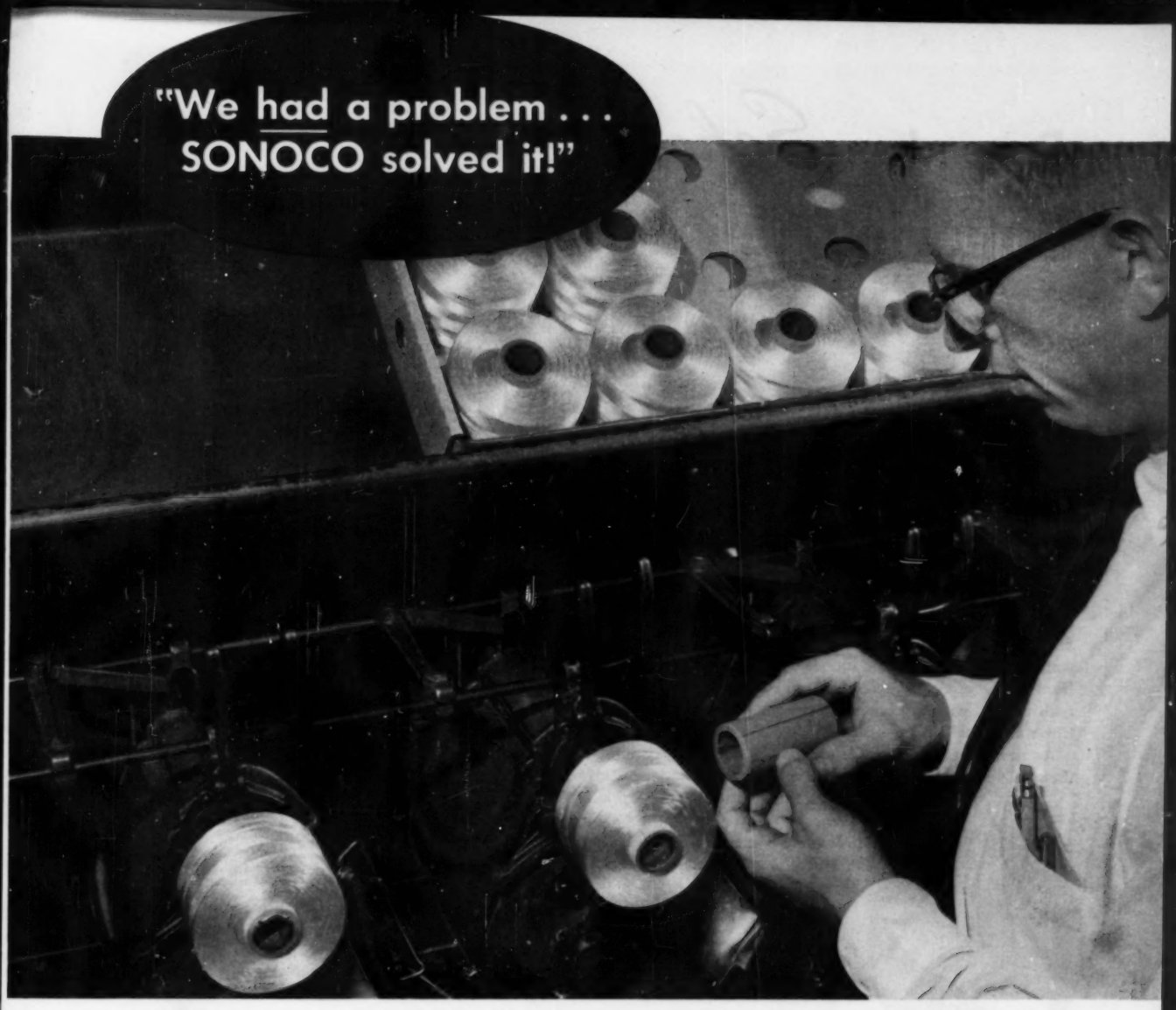
Dr. Herman A. Dickert of Atlanta retired as secretary-treasurer of TOE after 14 years of service. Dr. James L. Taylor, also of Atlanta, was elected to succeed Dr. Dickert.

Willys S. James of Summerville was elected general chairman.

Lee F. Wynn of Canton was elected vice general chairman.

James A. Wright, Valdosta, and Dan Melton, Monroe, were elected to the executive committee.



THE NEED: Split yarn tube to fit spindles without expanders

A large manufacturer was using a synthetic yarn, supplied by one of Sonoco's customers, to cover wire. The yarn was shipped on a split tube which permitted the empty tube to be removed and replaced with a filled package without cutting the wire. The spindle used on the wire-covering equipment had small splines but no expanders. If the tube I.D. varied as much as .004", the tube could not be put on the spindle or the fit was too loose for the spindle to drive the yarn package.

An experienced Sonoco sales engineer, with the assistance of the research and production departments, quickly solved this problem with a simple and ingenious idea. First, the inside diameter of the tube was slightly increased to assure a proper fit and, second, the interior surface was so constructed to give the splines a gripping area permitting the spindle to drive the package properly.

Only Sonoco with 60 years' experience, plus modern research and completely integrated manufacturing facilities, could solve this problem quickly. It is typical of countless cases where Sonoco technical and production "know-how" has benefited the industry. *Let Sonoco experience help you!*

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Because fabric can be no better than the fiber and the finish, SCHOLLER BROTHERS, INC., searches constantly for the ever-better combination of ingredients that may make the better product. It is a search that began more than a half-century ago...a search that continues with increasing ardor...a search that will never end!

Finishing plants across the nation, across the world, depend upon SCHOLLER PRODUCTS and SCHOLLER RESEARCH for superior finishes of uniform quality. And, to maintain these rigid quality standards, SCHOLLER SERVICE men are "just around the corner" from every plant always ready and anxious to help solve the multitude of vexing problems that constantly arise wherever textiles and chemicals meet!

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. . . . for the enhancement or development of fabric characteristics and stability.

Lanolized
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Textile World

CHEMICAL TREATMENT AND FINISHING

IN THIS SECTION

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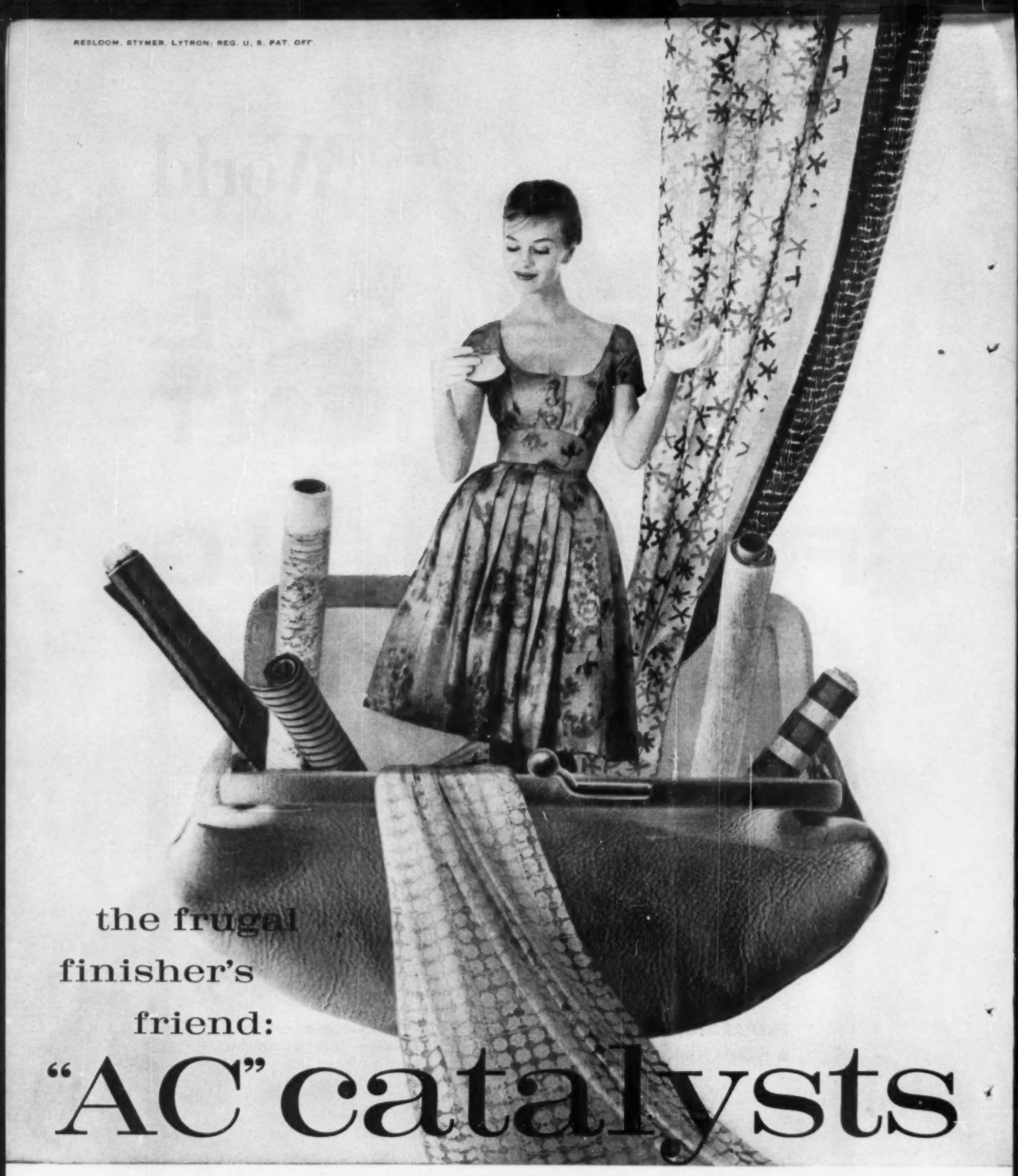
RESLOOM, STYMER, LYTRON: REG. U. S. PAT. OFF.



the frugal finisher's friend: "AC" catalysts

Here's how Monsanto AC Catalysts give you better results for less: 1) longer resin bath life; 2) faster, more complete curing of melamine, urea and other thermosetting resins; 3) with minimum resin add-on. There's less danger of amine odor formation or residual formaldehyde. And AC Catalysts are compatible with practically all modifying agents. Keep your finishing costs down—*safely*—with AC Catalysts and other Monsanto textile chemicals. For complete technical data on AC catalysts, write Monsanto Chemical Company, Plastics Division, Room 1218, Springfield 2, Massachusetts.

Monsanto

Other outstanding Monsanto textile chemicals include: Resloom E-63 chlorine resistant resins; Resloom E-50 cyclic urea resin; Resloom HP and M-75 melamine resins; Stymer sizes; Lytron polystyrene latices

CIRCLE 66 ON READER SERVICE CARD

Phosphates Improve Ice Colors—

Brighter and deeper shades can be obtained with the ice-cooler class of dyes if a small amount of sodium hexametaphosphate is added to the developing bath.

A report from Farbwerke Hoechst A. G. suggests the addition of 1.2 grams per liter of sodium hexametaphosphate to a developing bath containing the double salt of diazotized 1-amino anthraquinone with zinc chloride and 5 gpl. of chromium acetate The organic chromium salt produces brighter shades, and the alkalinity of the bath is assured by the metal phosphate. The bath pH is initially slightly acid; but as dyeing progresses, the pH becomes neutral or slightly alkaline, which favors coupling of the naphthol with the diazotized base well within the fibers.

The modified ice-color bath is especially suitable for stock- or package-dyeing processes.

Combined Chemicals Improve Rayon Stability—

Spun-rayon fabrics that are treated with a combination of glyoxal, a urea-formaldehyde resin, and a polysiloxane are said to be more stable, stronger, and softer than goods treated with glyoxal or urea-based resins alone.

In a typical formulation set forth in British Patent 813,926 to Midland Silicones Ltd., a liquor containing 6% of a 30% glyxol solution, 9% of a U.F. resin condensate, and 0.18% of an alkanolamine hydrochloride catalyst is mixed with another liquor that consists of 6.25% of an aqueous emulsion based on 24% methyl hydrogen polysiloxane and 16% of a hydroxylated methyl polysiloxane. To the mixture is added 1.25% of a catalyst comprising dibutyl tin diacetate and zinc 2-ethylhexoate. The goods are saturated with the solution and dried and cured at 150° C. for 5 mins.

The improvement in dimensional stability to washing is attributed to the glyoxal, which apparently produces strong chemical bonds between the cellulose hydroxyl groups and the hydroxyl groups of the silicone. The silicone also provides lubrication and a pleasing surface that is more resistant to abrasion.

Versatile Dispersing Agents—

Many materials that are insoluble in either water or common solvents can be emulsified in either medium by a series of dispersing agents based on polymerized carboxylic acid amides or copolymers of such amides with a vinyl lactam such as N-vinyl pyrrolidone or N-vinyl caprolactam. According to British Patent 813,463 to BASF, Germany, the dispersing agents allow the aqueous emulsification of polyurethanes, polyamides, and modified urea-formaldehyde resins, all usually extremely difficult to emulsify.

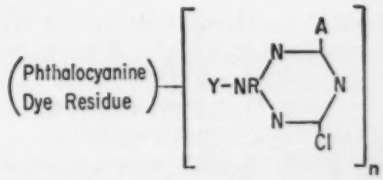
Substances such as urea, glycol, dimethyl formamide, and cyclo-hexanol also can be readily emulsified in organic solvents in which they are insoluble if these dispersing agents are added to the solvents.

The product is useful in preparing water-repellent emulsions and dispersions made of phthalocyanine pigments, iron oxide, or titanium dioxide.

New Reactive Phthalocyanine Dyes—

A fourth group of reactive dyes has been developed as a result of research at Imperial Chemical Industries Ltd., London, England.

The new dyes are based on the phthalocyanine pigments of which Monastral Blue is typical. Reactivity and water solubility are built into the pigment by reacting one mole of an amino derivative of a phthalocyanine with one or more moles of cyanuric compounds to give a reactive dye with the general formula:



wherein Y stands for a bridging divalent radical

or other direct link, *A* stands for a chlorine atom or alkoxy group, and *R* represents hydrogen or an alkyl or aralkyl group.

The dyes are applicable to cellulosic fibers from cool solutions of the dye plus an acid or alkaline binding agent such as sodium carbonate.

Low-Cost Process Improves Cotton—

Cotton can be made resistant to decay, heat, and acids by a new low-cost method of cyanoethylation announced last month.

The process, patented by Deering Milliken Research Corp., was a joint effort of Deering Milliken and the Institute of Textile Technology, Charlottesville, Va.

Treatment consists of padding cotton yarn or fabric in a solution of sodium hydroxide and acrylonitrile and then placing the goods in vapor-proof containers for 1 to 4 hrs. After this holding period, the cotton is neutralized, washed, and dried. Goods treated in this way are immune to soil and bacteria and are highly resistant to acids or heat.

The process is less costly than conventional methods of cyanoethylation, in both material and capital investment required.

Formic Acid Speeds Wool Dyeing—

If wool dyes are dissolved in cold formic acid instead of water, the dyeing time for wool can be cut from hours to a minute or two, according to a report from Australia.

Dr. B. S. Harrop of the Commonwealth Scientific and Industrial Research Organization discovered the process, which is applicable to continuous dyeing or printing operations. Present uses include stock and top dyeing.

Dye absorption in so rapid that wetting-out treatments or chlorination of the wool are unnecessary. Other advantages include savings in steam and dyebath additives. Commercial success will be governed by the cost of formic acid and the development of recovery methods, which at this point appear to be practical.

Yardage, Quality Up for Wash-and-Wear Cottons—

Wash-and-wear finishes will be applied to over 2 billion yds. of cotton broadwoven goods this year.

Nelson Getchell of the National Cotton Council, who reports the figures, says that the finishes are rapidly approaching the point where the consumer may wash and dry garments finished in this way without any restrictions.

A major advantage of chemically finished cottons stressed by Getchell is their refreshability by means of standard laundering practices that remove perspiration and odors. Chemically finished cottons also dryclean more easily than plain-finished goods, according to the report.

Today's finishes are only forerunners of what may be expected from chemical finishing of cotton in the future, Getchell said.

Attacks on Wool Shrinkage Mount—

Wool's tendency to shrink and felt when it is laundered is the subject of ever-increasing research activity to find ways to overcome the fiber's greatest weakness.

Dr. Harold P. Lundgren, Chief of the Wool and Mohair Laboratory at USDA's Western Regional Research Laboratory at Albany, Calif., reports that epoxy resins show great promise in controlling wool shrinkage during laundering.

Epoxides based on glycerol and epichlorhydrin and on bisphenol with epichlorhydrin have been used with success. The prepolymers can be applied from aqueous emulsions and are readily curable with amines or amine polyamides. The latter catalysts form tough copolymers that are firmly attached to the wool fibers.

The solutions can be applied by padding or exhaustion methods. Pad applications are so far more reproducible, but exhaustion methods will reduce shrinkage with a minimum of resin add-on. However, the exhaustion method may deposit resin unevenly and interfere with level dyeing.

Epoxy resin emulsions have been developed that are completely workable. The polymers are formed by curing treated goods at 300° F. for up to 7 mins. Dr. Lundgren emphasizes that fabric construction plays a large part in the production of low-shrinkage finishes. As little as 1½% of resin will stabilize well-designed fabrics so that they will withstand 15 to 20 modern wash cycles.

Apply Vats by Pigment-Printing Methods—

Vat-dye pigments may be printed on fabrics in a water-in-oil emulsion to give sharper, more-intense prints, according to a recent announcement from Du Pont.

Colors applied in this way may be developed at leisure by impregnating the printed goods with hydro and alkali followed by flash-ageing and conventional oxidation and soaping steps.

A large variety of vat pigments are suitable for application by this process, and the dyes printed from emulsions have an apparent strength of twice that obtained by the usual methods.

Printing speeds are higher than for conventional methods, and cleanup time after a run is short. The emulsions remain in workable condition for several weeks.

Acrylic Esters Improve Pigment Binders—

Better fastness to washing and crocking can be expected of pigments that are fixed on fabrics with a combination of thermosetting resins and a copolymer of butadiene with an amide and an ester (or nitrile) of acrylic or methacrylic acid.

A typical formulation includes 20.5 parts of 32% dispersion of a copolymer made from 93.6 parts of butyl methacrylate and 6.4 parts of methacrylamide with 13.5 parts of a similar 45% dispersion of a copolymer made of 37 parts of butadiene, 59 parts of methyl methacrylate, and 4 parts of methacrylic acid.

To this mixture is added penetrants and 64.5 parts Stoddard solvent, followed by the pigment and 5 parts of an 80% syrup of trimethylol melamine and a small amount of ammonium nitrate as a catalyst. British Patent 816,985 to ICI gives further details.

More Data on Spray Finishing—

The application of finishing materials by sprays instead of conventional pads has come of age, according to Du Pont.

Previously reported in TEXTILE WORLD [April '59, p. 85, Aug. '59, p. 67, and Oct. '59, p. 75], the method appears to offer several important advantages over the usual application procedures for finishes. Equipment costs are lower than for a finishing pad, possible production rates are at least 50% higher because of low moisture content in the treated fabric, and to date a wide variety of finishing materials has been applied successfully by the spray system. Either live steam or air can be used as the propellent, and fabrics can be treated while wet, damp, or dry.

Chemical costs are said to be less than for pad applications because there is practically no waste. Shifting from one finish to another can be done quickly, and the process is applicable to a wide variety of fabrics.

Did You Know . . .

. . . that you can reduce the chances of carrier spots in using sodium o-phenylphenol if you acidify the alkaline solution after the dyebath has come to the boil? In the presence of a suitable anionic dispersing agent, the o-phenylphenol is liberated by acetic acid from the sodium salt in a more-finely dispersed form if the bath is at high temperature.

•

. . . that new milling processes and chemical modification may put wheat starch in a competitive position with corn starch in textile applications? Dr. F. R. Senti, Director, U. S. Dept. of Agriculture, Northern Utilization Research Laboratory, Peoria, Ill., recently described research work on wheat starch that is producing new and useful fractions of wheat that show considerable promise in many industrial applications.

Chemically modified wheat flour is being studied for possible use as a thickener and as an adhesive and coating material for textiles and paper.

NEW DYES AND CHEMICALS

Acid Dye

Irgalan Blue FGL . . . is recommended for general use on wool, nylon, or silk. The dye is greener and brighter in shade than Irgalan Blue GL and exhibits good fastness to fulling, milling, and carbonizing.

The dye has excellent drawing properties in neutral baths, which makes it well adapted for dyeing blends of wool with man-made fibers.

The shade change is slight under artificial light or as a result of acid chlorination of wool. Geigy Dyestuffs Div., Geigy Chemical Corp., Ardsley, N. Y. **Circle D-1 on Reader-Service Card**

Fulling Assistant

Seyco 6727-L . . . is used with soda ash to produce fast, even fulling. The product will work with solvent-type soaps or solvent blends that are commonly used to remove tar spots from wool. The fulling assistant helps in removing wool oils during subsequent scouring and is easily rinsed out. Shades are not affected by the product. Seydel-Woolley & Co., 748 Rice St., N.W., Atlanta 18, Ga. **Circle D-2 on Reader-Service Card**

Acid Dye

Levelan Blue FFR . . . produces brilliant shades of blue that have excellent lightfastness. The product levels well and is recommended for wool or nylon. The shade is similar to the Alizarine Brilliant Blue types, but the new dye is applied with sulfuric acid. Verona Dyestuffs, Springfield Rd., Union, N. J. **Circle D-3 on Reader-Service Card**

Vat Colors

Solanthrene Brill. Scarlet N Optima Paste . . . is recommended for the production of red and scarlet shades resistant to sublimation at 390° F. The color works well in printing cotton or acetate fabrics and is resistant to prolonged ageing conditions.

Solanthrene Beige N Optima Paste . . . produces lightfast prints on cellulose fabrics and is particularly suited to printing large blotch patterns in pale shades. The dye is also useful for discharge on resists under aniline black.

Solanthrene Printing Black 2J Double Paste . . . is suggested for the production of economical blocks on cellulosic materials with the aid of Rongeol C Extra powder.

Solanthrene Printing Black TL Optima Paste . . . is particularly suited to printing contour blacks on cellulosic fabrics and has excellent fastness to light, washing, and chlorine. Francolor, Inc., Woonsocket, R. I. **Circle D-4 on Reader-Service Card**

Basic Dye

Astra Violet 3R Extra . . . is an economical dye that is useful in producing red shades in combination with Astrazon Orange G at low cost. Verona Dyestuffs, Springfield Rd., Union, N. J. **Circle D-5 on Reader-Service Card**

Triazone Resin

Seyco-Set T2 . . . is a reactive resin developed to produce crease-resistant, wash-and-wear finishes. The resin is nonyellowing, is resistant to chlorine pickup, and is compatible with a variety of softeners and bodying resins that may be required to produce the desired hand in fabrics. Seydel-Woolley & Co., 748 Rice St., N. W., Atlanta 18, Ga. **Circle D-6 on Reader-Service Card**

Water Repellent

Impregnole . . . an improved version of this one-bath water repellent is described as compatible with a wider range of other finishing materials than older formulations.

The product imparts more-durable water repellence and soiling resistance to a wide range of fabrics. Warwick Chemical Div., Sun Chemical Corp., Wood River Junction, R. I. **Circle D-7 on Reader-Service Card**

Modified Urea Resin

Seyco-Set 65 . . . is described as a cyclized modified urea resin that has high resistance to chlorine pickup and does not yellow fabrics to which it is applied.

The resin produces very high crease-angle recovery without excessive loss in tear or tensile strength or abrasion resistance. Compatibility with other finishing materials is good. Seydel-Woolley & Co., 748 Rice St., N.W., Atlanta 18, Ga. **Circle D-8 on Reader-Service Card.**

Dye-Finish Combination

Polimize Dyes . . . are designed to produce fast colors and a permanent softening effect on cellulosic fibers in one operation. The dyes are of the developed type, and in addition a catalyst is used to produce the finished effect. They are recommended especially for package-yarn dyeing.

The series of dyes produces dyeings that are fast to 40 hrs. light and to repeated washings at 160° F. Althouse Chemical Co., Reading, Pa. **Circle D-9 on Reader-Service Card**

Optical Brightener

Leucophor ACR . . . works well with acid-catalyzed resins, as indicated by the identifying letters. The product does not tail off in application and is stable to zinc nitrate.

The brightener may be added to the resin bath at any stage without fear of precipitation. Goods treated with the brightener are fast to the No. 4 wash tent and will not yellow at elevated temperature. Sandoz, Inc., 61-63 Van Dam St., New York 13, N. Y. **Circle D-10 on Reader-Service Card**

Organic Acid

Seyco Sulfonic Acid Special . . . is designed for plants that prepare their own detergents or wetting agents from alkyl aryl bases. The acid is much easier to handle than straight sulfonic acid and is easier to neutralize, while at the same time it is capable of producing very effective surface-active agents. Seydel-Woolley & Co., 748 Rice St., N.W., Atlanta 18, Ga. **Circle D-11 on Reader-Service Card**

South Continues To Gain In Chemical Treatment and Finishing

After a tough year in 1957, finishers found 1958 even worse. Government figures for 1958 show—

- **The South continued to gain in cotton finishing**
- **New England got a bigger share of man-made-fiber and silk work**
- **Other areas lost ground in both categories**

Preliminary reports for 1959 show that business for finishers is improving in a year of high textile activity.

THE SOUTH ATLANTIC STATES again made a gain in total cotton, silk, and man-made-fiber fabrics finished in 1958, according to latest Bureau of the Census reports.

In the face of a 5½% drop from 1957 in over-all goods finished in the U. S., these states racked up a small gain in cotton finishing that offset a loss in man-made-fiber fabrics.

New England finished 525,943,000 yds. of man-mades and silk, to show a 5.3% gain, but lost out in its cotton finishing, which totaled 1,466,054,000 yds., or 19.4% less than in 1957.

During the same period the Middle Atlantic states fell off 8.7% in cotton finishing to 612,664,000 yds., and man-mades and silk slipped 8.9% to 986,687,000 yds.

All other areas dropped 11.2% in cotton finishing with 837,459,000 yds. and accounted for 111,637,000 yds. of finished man-made-fiber fabrics and silk, nearly 6% below 1957.

Total production of finished goods in all categories except wool was 9,232,365,000 yds.

Here are the figures for area activity in both categories:

	% of Total	
	1958	**1957**
Cotton	78.5%	78.8%
New England	20.2	23.7
Middle Atlantic	8.4	8.8
South Atlantic	59.8	55.2
All other areas	11.6	12.3
Man-Made Fiber and Silk		
	21.5%	21.2%
New England	26.3	23.8
Middle Atlantic	49.5	52.0
South Atlantic	18.5	18.7
All other areas	5.5	5.7

A significant change over 1957 is the drop in Middle Atlantic's share of man-made-fiber finishing from 52.0% in 1957 to 49.5% in 1958. Actual yardage loss was 8.9% in a category with an over-all loss of 4.1% in the same period.

Southern Plants Hold Lead

The big-volume finishing plants in the South Atlantic area continue to rack up gains in cotton finishing.

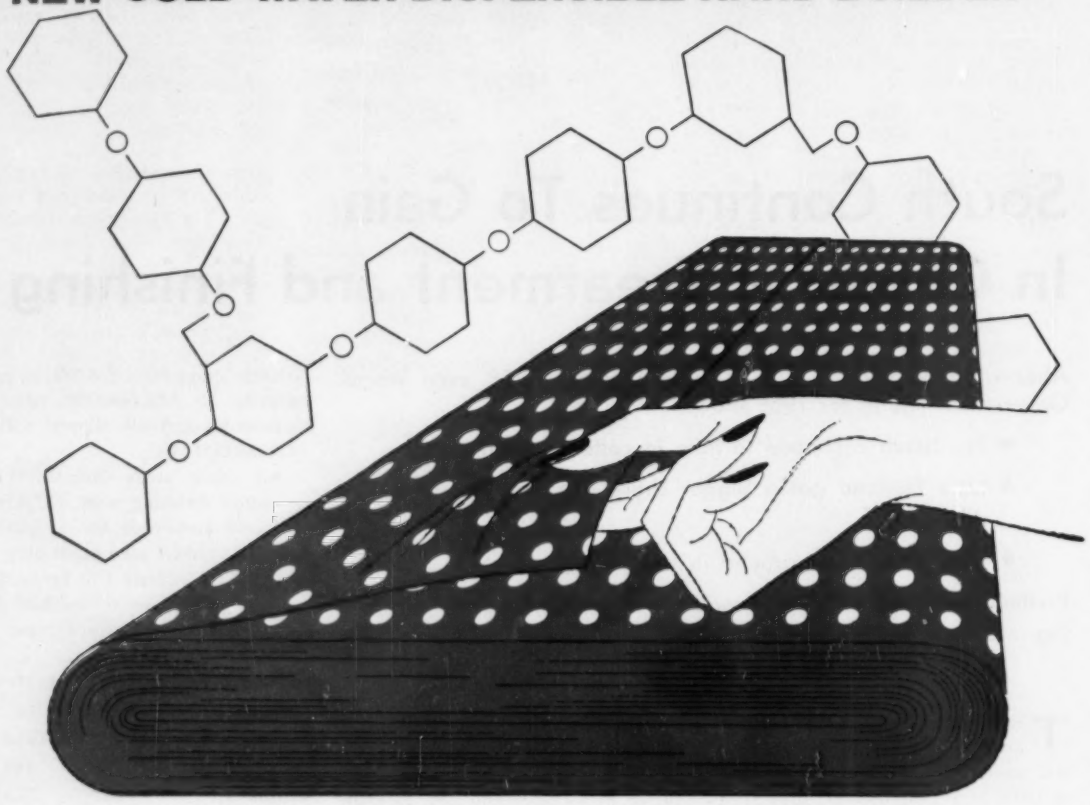
The strength and direction of this

Goods Finished: 1958 vs. 1957
(Thousands of yards)

	1957	1958	% Change
All goods finished	9,786,732	9,232,365	− 5.6%
Cotton Goods	7,705,356	7,238,131	− 6.0
New England	1,822,694	1,466,054	−19.4
Middle Atlantic	671,527	612,664	− 8.7
South Atlantic	4,267,541	4,321,960	+ 1.2
All other areas	943,634	837,459	−11.2
Man-Made Fiber and Silk	2,081,376	1,994,234	− 4.1
New England	499,441	525,943	+ 5.3
Middle Atlantic	1,084,019	986,687	− 8.9
South Atlantic	379,296	369,967	− 2.4
All other areas	118,620	111,637	− 5.8

Kosol

NEW COLD WATER DISPERSIBLE HAND BUILDER



IMPROVES HAND OF WASH 'N WEAR FABRICS

KOSOL is a new kind of hand builder. With a branched chain type structure that cross-links more readily with resins. Clear. Colorless. Gives a new fullness to wash 'n wear finishes.

KOSOL takes only minutes to prepare. No cooking. No cooling. You simply disperse in cold water. Add to resin mixture. Then apply to fabric!

KOSOL is compatible with all resins now in widespread use. It's another development of textile research at National. Try it for that little extra that means so much in fabrics. Write or call your nearest National office.

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trend is further indicated by the fact that in 1958 New England processed 19.4% less cotton goods and the Middle Atlantic area fell off 8.7%. All other areas lagged behind by 11.2% in cotton finishing, while the South Atlantic region made a 1.2% gain.

A comparison of the yardage finished in 1957 and 1958 is shown in the table on page 71.

Preliminary reports for 1959 for cotton finishing as a whole are more heartening than any since 1956. For the first half of the year, cotton finishing is running at the 8-billion-yd. level.

Unofficial estimates of man-made-fiber goods finished in 1959 indicate that the 1956 level of over 2,150,000 yds. may be reached.

Bureau Of The Census figures for cotton, rayon, and/or acetate fabrics that were resin-finished in 1957 and 1958 are obscured by some important deletions made to protect company identities. However, a close estimate can be made of the probable production in key areas to give a fairly accurate picture.

In resin finishing, the South Atlantic area is a heavy leader, producing 1,150,226,000 yds., or 63.5%, of such goods in all categories. Of this total, North Carolina, South Carolina, and Virginia handled all but 38,278,000 yds., or 3.3%, finished in Georgia.

Figures for Delaware and New England are incomplete. The Middle Atlantic area handled 241,177,000 yds. of resin-finished goods in all categories in 1958, a gain of 9.7% over 1957.

All other areas accounted for 63,281,000 yds., or 3.4%, of all resin-finished goods in 1958.

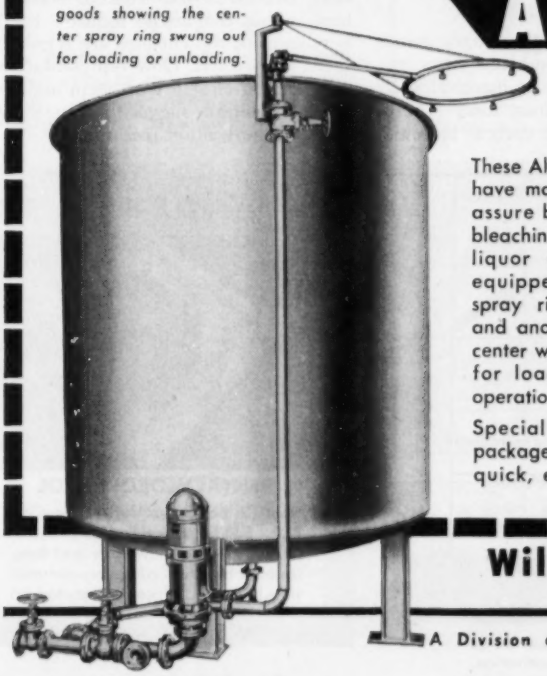
By subtraction, the Delaware and New England production can be estimated at 23.3% of all resin-finished goods.

The swing to resin finishes has been rapid, and public acceptance has been good. Estimates vary as to the percentage of apparel cotton fabrics that are being resin finished; but in several key plants, 90 to 95% of all such goods are being treated with resins.

Cotton consumption is considered to be at least 10% ahead of what it would be at this time except for the excellent acceptance of resin-treated cotton fabrics.

Especially Designed for Bleaching **KNIT GOODS**

The Allen Kier for knit goods showing the center spray ring swung out for loading or unloading.



ALLEN Stainless Steel KIERS

These Allen stainless steel kiers have many advantages which assure better, more efficient bleaching. For finest bleaching liquor coverage, they are equipped with a stationary spray ring on the periphery and another ring covering the center which can be swung out for loading and unloading operations.

Special prefabricated unit-package construction permits quick, easy installation and lower cost maintenance.

SPECIAL ADVANTAGES

- **Lower cost non-stretch operation**
- **Positive temperature control**
- **Controlled circulation for efficient bleaching**
- **Smooth stainless surfaces eliminate rust, snag and rub marks — save chemicals**

Write today for circulars giving complete information on this as well as "Package Design" cloth kiers and kiers for absorbent cotton or cotton batting.

William Allen Son's Company
SHREWSBURY • MASSACHUSETTS

A Division of O. G. KELLEY & COMPANY, Boston 22, Mass.

DOW

What's new and what's news
IN TEXTILE CHEMICALS

Contrary as it may seem, news is not always about the new. In the field of textile chemistry, the excitement may concern an *old* friend which has suddenly taken on new importance. That's why these news notes will bring you facts about new *developments* in established chemicals, just as often as they will tell you about new chemicals. This month, three old standbys in a new light . . .

You may wish to check certain items in this advertisement and forward to those concerned in your own company.

ROUTE TO:

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_____

CHELATING AGENTS: ECONOMY AND VERSATILITY IN TEXTILE PROCESSING

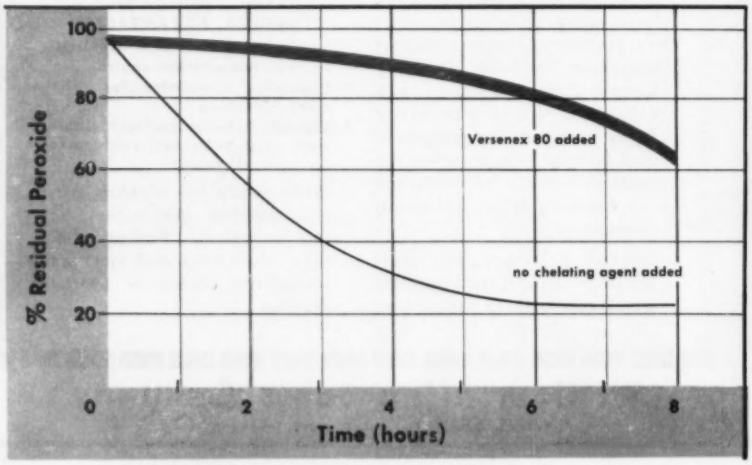
Wherever a manufacturing or processing operation uses water, metallic ions can be a costly problem. In many textile finishing operations, Dow chelating agents do the important job of eliminating troublesome metallic ions cheaply and effectively to benefit the textile operator.

Textile people have long known, of course, that chelation was the most effective way of taking care of metal ions that often have caused streaking and staining or even weakening of fibers. The problem, until recently, was one of economy.

The Dow chelates—Versene®, Versenol® and Versenex*—have countless applications in the textile industry. If metal ions are a problem in dyeing, scouring, stripping and desizing operations, the answer is Versene 100 in solution form or Versene Flake or Powder (EDTA Na_4).

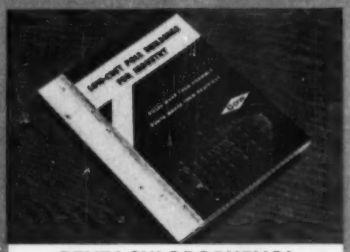
If ions of iron or other heavy metals are complicating peroxide bleaching operations, they can be inactivated by Versenex 80 in solution form (DTPA Na_5). In applications such as kier boiling combinations of chelating agents are available to solve special iron problems.

If you use water, you may need chelates. Wherever a manufacturing or processing operation uses water in any form, the problem of metallic ions is likely to exist. The surest, safest way to fight that problem is with chelation. And, thanks to the work of research men within the textile industry itself, new uses for the chelates are regularly being discovered. Dow representatives are working closely with them and are offering helpful suggestions in many areas of application research.



The above graph illustrates the stabilizing effect of 0.01% Versenex* 80 on a typical textile bleach bath containing 0.25 ppm copper contamination.

OTHER DOW



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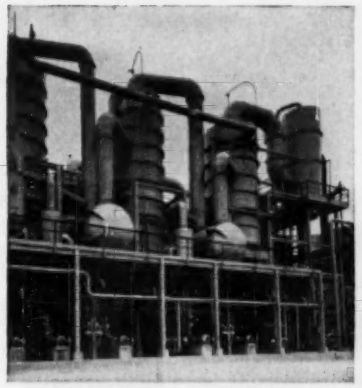
New 12 page booklet—"Low-Cost Pole Buildings for Industry"—describes in detail low costs and long lasting benefits of penta-treated pole buildings. Write for copy today!



SIX KINDS OF CAUSTIC
From 13 Distribution Points

From 4 different producing plants and 9 additional terminal points, Dow distributes caustic soda whenever and wherever it's needed.

Dow caustic is available in solution, solid and flake form. Moderate to large users find *50% solution* requires minimum handling, has low price. A *73% solution* must be diluted and cooled before storing but is much easier to handle than dry caustic. Very economical for large users.

Solid caustic is the least expensive of the dry forms but requires more handling—ideal for smaller users distant from production points. *Regular flake* is best for those buying 400 lbs. or less at a time. Many alkali users find *¼" flake* suits them best. Dustless, free-flowing *ground flake* compounds easily with other materials and many formulators prefer it.

★ ★ ★ ★

For additional facts on Textile Chemicals, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Chemicals Merchandising Department 987FE12.

Remarkable dye solvent cures indigo blues

Manufacturers concerned with textile dye solvent problems, especially where indigo-type dyes are involved, are finding that Dowanol® DE-SG provides an extremely apt solution in a great many cases.

Dowanol DE-SG is a modified version of Dowanol DE (diethylene glycol ethyl ether). Used as a solvent with pastes containing alkyds, it controls evaporation and aids penetration and leveling.

A small quantity of Dowanol DE-SG greatly increases the solubility of the dye and manufacturers, particularly those who use indigo-type dyes, will also be pleased by the brighter colors and reduced crocking obtained.

In another application, Dowanol DE-SG, used with triethanolamine, produces in denims a color shade approximately 15 per cent deeper than can be achieved through the usual dyeing methods. A typical textile dyeing formulation would include 10 ounces of indigo powder, 27 ounces of Dowanol DE-SG, 14 ounces of triethanolamine and 100 gallons of sulfite liquor.

Brighter, deeper colors made possible with versatile glycol ether solvent, Dowanol DE-SG.

Dow's new 52-page Dowanol booklet will give you complete information on uses, analytical methods, toxicological and handling data on Dowanol compounds (the industry's widest line of glycol ether solvents). The booklet is available now. Please request it on your letterhead.

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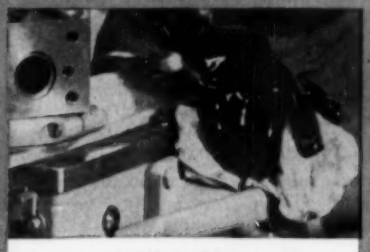

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Used for spray, bucket, dip or wipe cleaning, Chlorothene® (Dow 1, 1, 1-trichloroethane, inhibited) is the *safer* industrial solvent for cleaning machinery, tools and small parts.

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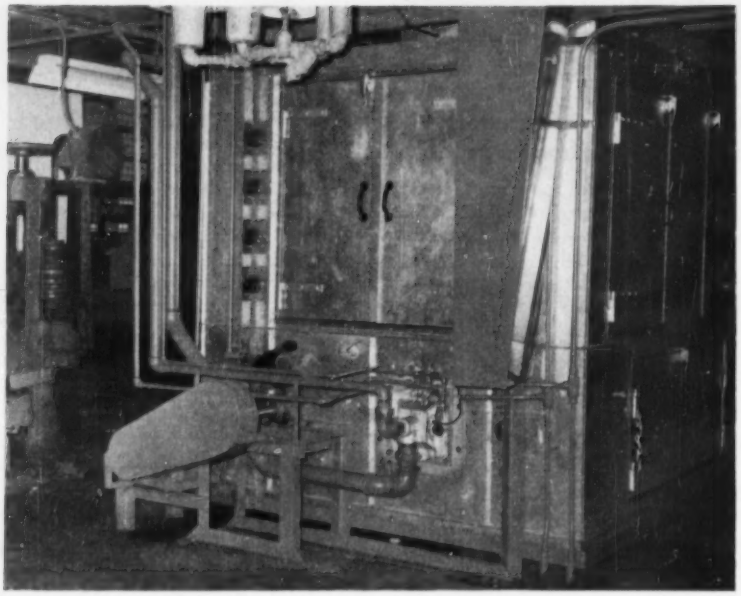
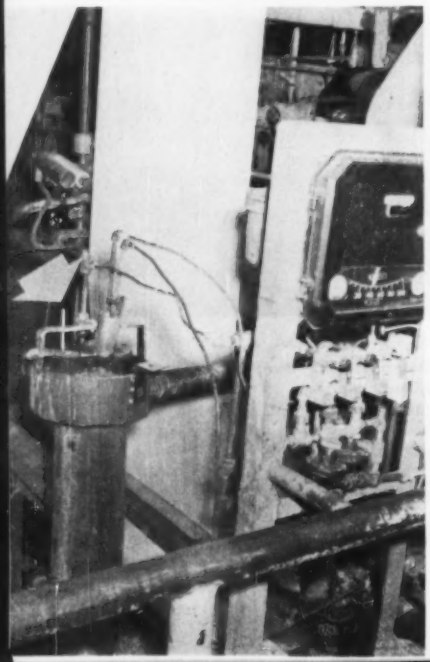
Dow can offer important savings on mixed shipments of soda ash and caustic soda. Write to Dow for free book on properties, uses, handling and storage of soda ash.

How Dan River's Div. No. 3 Maintains



THIS NEW GAS-FIRED PREDRYER is used to set vat pigment rapidly after it is padded on. Radiant heat produced in this dryer cuts pigment migration.

ALL MERCERIZING CAUSTIC is constantly circulated through mercerizer pad boxes and a central supply tank. In this monitoring well, a hand hydrometer (arrow) checks the automatic caustic-strength control instrument.



Div. No. 3 is Dan River Mills' huge finishing plant at Danville Va. Geared up to produce 4½- to 5-million yds. per week, the plant spares no effort to produce top-quality goods. Management gets the quality it wants with—

- Best available dyes and finishes
- Modern equipment
- Step-by-Step process checking
- Strict laboratory control

KEEPING UP QUALITY ON A LARGE-VOLUME BASIS boils down to know-how, process control, good machines, and the best available materials.

Danville's know-how is deep-seated, with over 76 years' experience in the manufacture of finished cotton goods.

The modern finishing plant, known as Div. No. 3, relies heavily on processing methods established by the Research Div. Bleaching, dyeing, and finishing formulas are set up by the Research Div., which has laboratory-scale equipment to perform most of the basic processes that are used in the plant.

As new dyes and chemicals become available, the Research Div. evaluates them on a small-scale basis. Promising new products are put into process only after many trials prove that the change will offer an advantage without lowering quality, and often for the sole purpose of raising quality.

Quality and Volume

Research Develops Own Resins

But the prime object of research is the development of new products or processes, and in this respect Dan River's Research Div. has been very successful.

As the wash-and-wear craze mushroomed into what has become the second great revolution in modern cotton finishing (the 1% shrinkage guarantee in cotton fabrics was the first), Dan River's researchers came up with two resins that are manufactured by Dan River research personnel. One is a melamine type; the other is a triazone.

About 95% of Dan River's apparel fabrics and a high percentage of the apparel fabrics it dyes on commission are resin finished.

So the development of its own resins gives Dan River both a price advantage and complete control of product quality in an extremely vital area.

Processes Are Constantly Checked

Div. No. 3 is a big finishing plant with 3 continuous peroxide bleaching ranges, 4 eight-beam progressive boil-offs, 8 mercerizers, 3 continuous dyeing ranges, and 19 finishing ranges.

The two-stage bleaching ranges have automatic temperature controls and chemical feed to the caustic, and bleaching saturators are controlled by proportioning pumps.

A constant check on alkalinity of the caustic solution is kept by periodic titration of samples of caustic solution from the saturator. The bleach bath is titrated every 20 to 30 mins. to make sure that its oxidizing power is up to par and that buffer content is at the proper level.

Then behind the regular operator, the control laboratory makes a titration once or twice each shift to double-check plant results.

The mercerizers are furnished with caustic at a predetermined level of strength, and automatic controls maintain the proper degrees Twaddell at all times. But gadgets fail sometimes; so an old-fashioned hydrometer is kept floating in the well where the specific gravity of the caustic is measured by the controlling instrument.

Dan River's mercerizers are equipped with cascade washers aided by suction pumps that pull wash water through the goods to speed up caustic removal.

Before the goods leave the tenter, caustic content is pulled down to less than 2½% to avoid width loss. A six-box washing range completes the removal of caustic.

Titrations Check Dyeing

The great bulk of Dan River's dyed work is done on three continuous dyeing ranges, and the dyes that are used are all in the fast-color category. No so-called commercial colors are used in any dyeing operation.

Vats are dyed by pigmenting the goods, drying them, reducing the color in a chemical pad, and then steaming, oxidizing, and soaping in the usual manner.

The critical element in this procedure is the caustic-and-hydro solution in the chemical pad. The reduction potential of this solution must be adequate to convert the vat pigment to its soluble form; but an excess is costly, and wide variations cause differences in shade.

When a range is in operation, the chemical-pad solutions are titrated every 15 to 20 mins. to make sure that optimum conditions are maintained.

New Predryer Cuts Migration

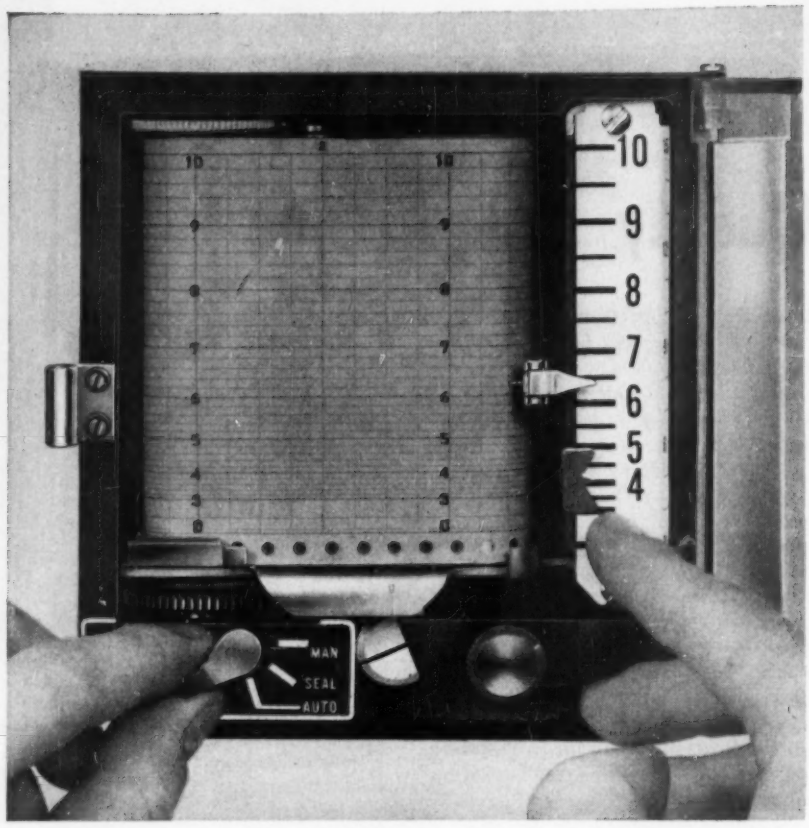
During the summer vacation period, a gas-fired predryer was installed on one of the dyeing ranges behind the pigment pad. In this unit, the pigmented goods pass over steel plates heated to 850° F. by enclosed gas flames. The radiant heat from the plates absorbs moisture from the goods from inside out rather than by

CONTINUED ON PAGE 81

ONE OF DOZENS of such panels mounted in a separate mezzanine floor, this electronic control responds to push-button switches on Finishing Range No. 4. Centralization of these units keeps them off the production floor and simplifies maintenance.

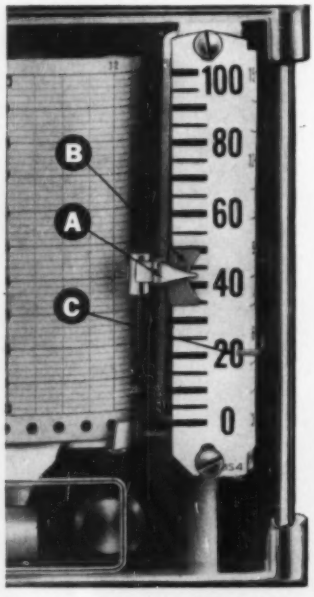
ONE OF MANY CHECKS ON QUALITY, crease resistance is checked here by the TBL method.

One of 38 Metagraphic Receiver Models you can choose from, all with only 5" x 5¼" panel. This model has single-knob, six-position transfer station for completely "bumpless transfer" in cascaded control systems.



BRISTOL METAGRAPHIC RECEIVERS:

"Easiest 'bumpless transfer' you ever saw"



Variable (A), set point (B), and valve position (C), all on same scale, make manual-automatic transfer easy.

That's what instrument men say after trying the Bristol Metagraphic Pneumatic Receiver—even in cascade control systems.

Just seal, match pointers, transfer. There's not a single value to read. That's because the Metagraphic gives you valve position, set point and measured variable —*all on the same scale.*

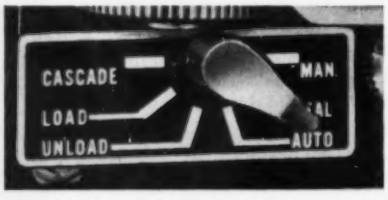
No finger-disconnects here! The Metagraphic is a true plug-in receiver—plugs and unplugs in 5 seconds with no loss of automatic control.

You can switch from indicator to recorder in less than 10 seconds, interchange many receiver models, change range simply by changing chart. Cuts down on costly reinstallations if process requirements are changed.

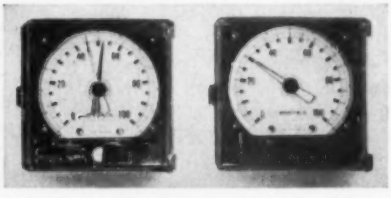
Write today for the complete Metagraphic story. Don't forget, Bristol offers the widest selection of miniatures on the market. (Full sized instruments, too.) The Bristol Company, 103 Bristol Road, Waterbury 20, Conn. B-18

BRISTOL TRAIL-BLAZERS IN PROCESS AUTOMATION

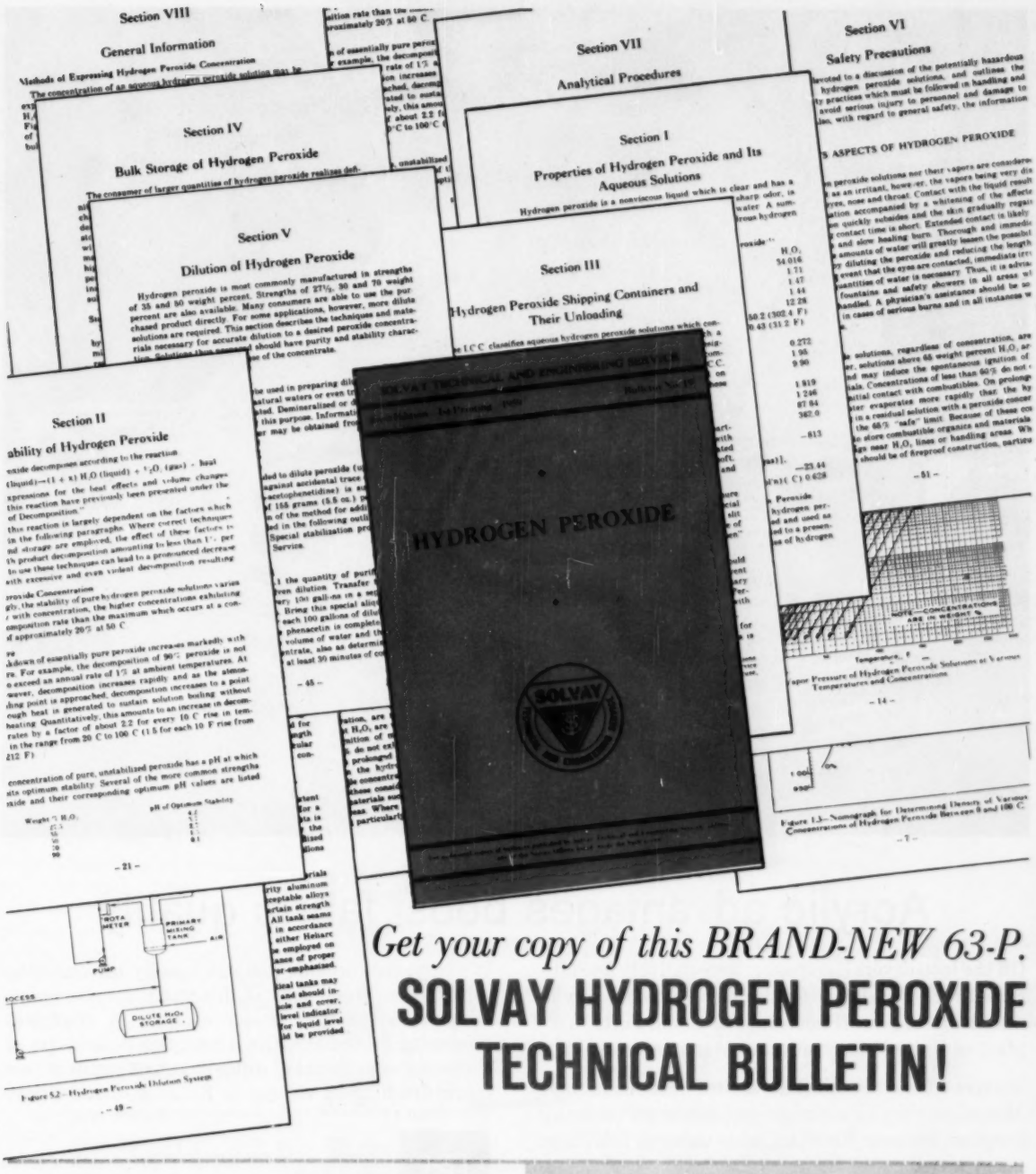
AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS



Six-position transfer station (enlarged view) for cascade service. Three-position manual-automatic station is also available.



Metagraphic Indicating Receivers have full 9-inch scale for easy reading; feature complete 10-second interchangeability with recorders.



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Acrylic advantages boost fabric quality

Off the loop dryers it comes . . . superlatively fine fabric with the Fort-i-Fide finish which RHOPLEX acrylic resin helps to give. (Photographed at Old Fort, N. C. plant of United Merchants and Manufacturers, Inc.)

Makers of quality fabrics—United Merchants and Manufacturers, for example—use RHOPLEX for many purposes because RHOPLEX adds value to fabrics in many ways.

For instance, giving to wash-wear finishes their sensationally improved physical properties and to cotton or rayon piece goods the exact hand or drape they should have. Adding durability, abrasion-resistance, and delustering are other quality-boosting ways to use RHOPLEX resins.

It's easy, too, because you can usually use aqueous, solvent-free dispersions of RHOPLEX acrylic resins without making any major changes in your wet processing procedures. Get a complete description of the many advantages of using RHOPLEX resins in fine fabric finishing by writing to Rohm & Haas, today.

(Fort-i-Fide is a trademark of United Merchants and Manufacturers, Inc.)

Chemicals for Industry

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RHOPLEX

the outside-in principle of the usual hot air or contact dryers.

Pigment is locked within the fibers before it can migrate to the surface. The result is another quality gain in the form of cleaner, more-level dyeings.

Tenters Are Well Equipped

Dan River's 19 finishing ranges are not only modern in the major elements of pads, tenters, and drying equipment. They also boast automatic weft straighteners, and one range has a magnetic metal detector.

The latter accessory shuts down the range if any metallic particles are imbedded in the fabric. The range in this case includes a rolling calender that could be damaged easily by tramp metal. Also, many thousands of yards of goods can be reduced to seconds by cuts caused by tramp metal that is transferred from goods to the paper bowls of a calender.

The weft straighteners are labor savers and help considerably in keeping quality to top level. One of the common complaints of cutters and home dressmakers is that American-finished fabrics are too often biased and therefore difficult to cut and sew into matching panels that hang properly.

Afterwashing Is a Must

Dan River takes no chances on odor development in its resin-finished goods. All such fabrics are put through an alkaline wash and a thorough rinse in an open soaper. Any free formaldehyde or unpolymerized resin is removed by this washing, which adds to costs but insures a better piece of goods.

As a finishing touch, 95% of the plant's production is shrunk to 1% or less residual shrinkage.

At this point, the control-laboratory staff takes over and checks each lot to be sure that strength, abrasion resistance, crocking, crease resistance, and fastness to light and washing are up to par. The plant's own crease resistant finish, Wrinkle-Shed with Dri-Don, is advertised by hang tags applied to goods that conform with the standards set up for the thousands of styles based on nearly 1,000 basic fabrics.

Paying attention to quality is paying off for Dan River through constantly increasing sales at profitable prices.

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Ask the man from S-W . . .

. . . about the excellent wear-resistance qualities of **MICROROK** covers. Heat resistance this cover offers, too, up to 180°F. PPadder, Mangle, Washer, and Carbonizer Rolls give long service life when their covers are **MICROROK.**

Literally thousands of **MICROROK** Rolls are proving daily that they are the most versatile hard rolls in use today. This and other factors mean cover longevity which you may not be getting. Ask your S-W man for the facts.

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MICROROK® combines the best properties of metal rolls with the best properties of rubber rolls. It combines hardness and smooth finish with the resiliency of rubber. It gives outstanding life between grinds, thus reduces your maintenance costs. Microscopic depressions in the surface, which looks mirror-like, aid in gripping fabric and preventing slippage.

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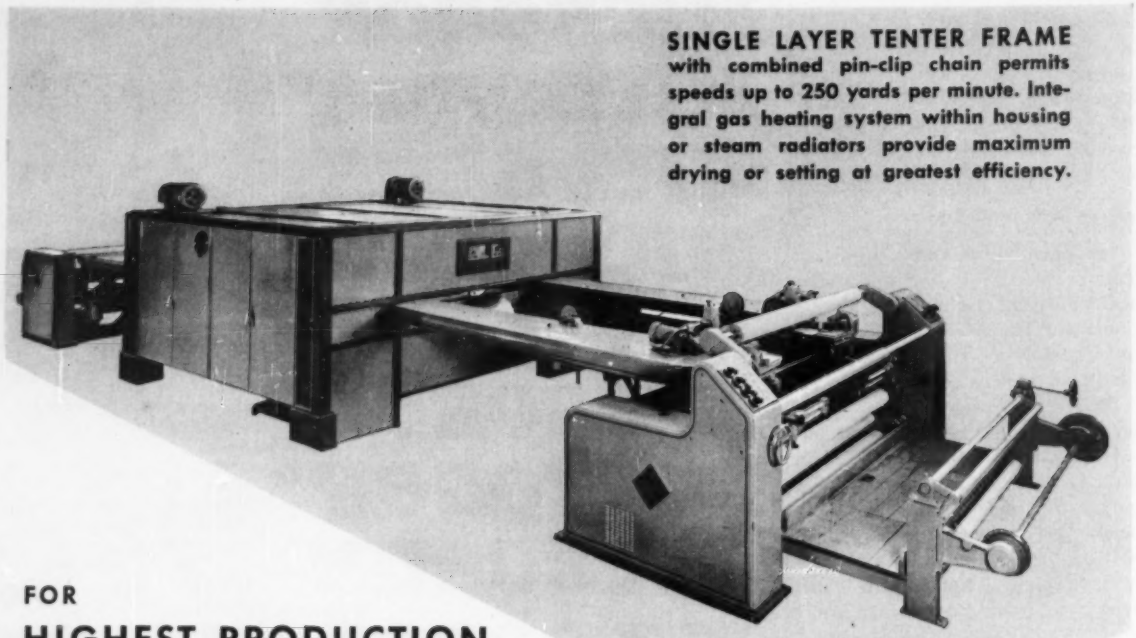

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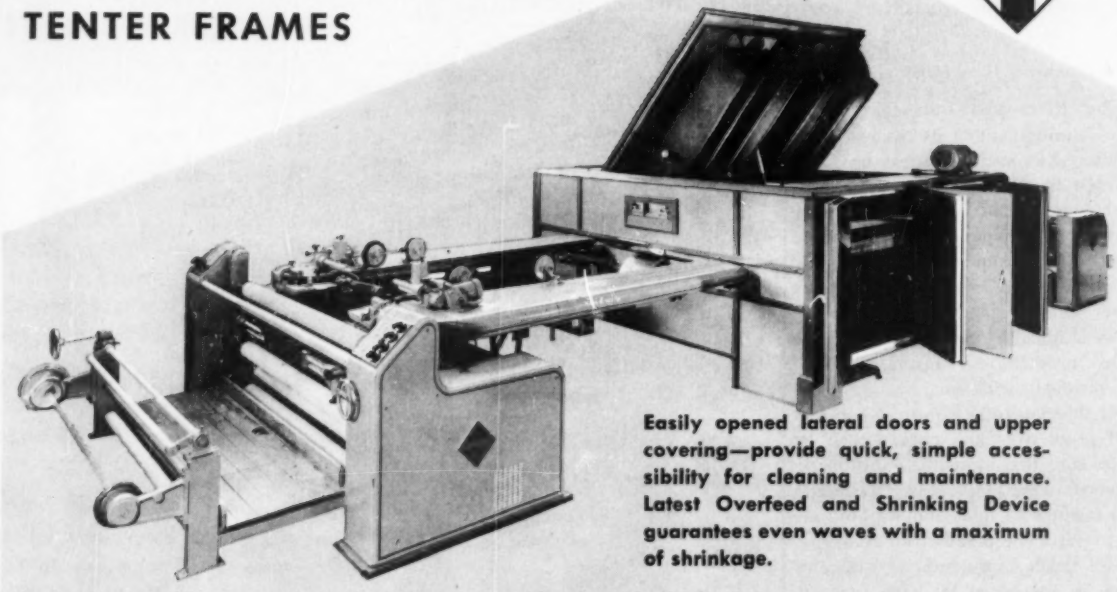

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Tests for color standards show that dyes often are less effective when you use salt of average purity. Quality control methods will show best results with high purity Morton Chemical Grade '999' Salt. It's the all sodium salt, sodium chloride and a trace of sodium sulphate, that many dye manufacturers use in testing their dyes before they are sent to you.

When you use Morton Chemical Grade '999' Salt in your operation, it complements your dyes . . . makes them more effective and helps you get softer finishes, more even shades and greater color intensity. It's easy to see why. Morton Chemical Grade '999' is more than 99.95% pure sodium chloride. It is a low cost, high purity evaporated salt free from objectionable calcium and magnesium compounds that may precipitate or react with dyes to reduce their effectiveness.

Available in 100-lb. bags or bulk, Chemical Grade '999' is recommended for use *whenever commercial calcium-free salt* is required. It's specifically recommended when direct salting is used in dyeing rawstock, package, beam, beck or jig with either sulphur, direct, or naphthol dye.

Morton offers you intermediate grades of salt, too

In addition to Chemical Grade '999' Morton produces several other grades of high-purity salt for textile use. As the only nationwide salt company, Morton can supply the kind of salt and service you require, regardless of your size, particular operation or your location.

- ☐ Please send me more information about Morton Chemical Grade '999' Salt.
- ☐ I would also like to consult with a Morton representative about the other intermediate grades of salt Morton offers the Textile Industry.

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Whatever fabrics you finish, you can benefit from the new textile finishes now being formulated with A-C Polyethylene.

Already widely accepted as a *softener and finishing agent* to impart superb "hand," the new emulsions containing A-C Polyethylene benefit every type of synthetic and natural fiber in some way over other textile finishes. In addition to better "hand," they provide higher abrasion resistance, improved tear strength, extra crease resistance, permanence through multiple cleaning cycles, and better sewability through reduced needle cutting.

In wash-and-wear finishes, for example, A-C Polyethylene overcomes loss of "hand" and tear strength when used along with the thermosetting resins commonly employed in finishing wash-and-wear.

Write today for more information. Why not find out all about this new advance in textile finishing? Your textile chemical supplier either has an A-C Polyethylene finish on hand or can formulate one for your specific needs. Anionic, cationic and nonionic emulsions are available to fit all needs. (We are manufacturers of resins, not finishing emulsions.) Or write to us direct for complete information at the address below.

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A TEXTILE WORLD Refresher

Preparation and Bleaching—

7. The Principal Bleaching Materials and Methods

- How chlorine solutions are made and applied
- How peroxide is prepared and used
- The role of hydrogen peroxide in cotton bleaching

By PROF. KENNETH S. CAMPBELL, Dept. of Textile Chemistry
N. C. State College School of Textiles

CHLORINE-BASED BLEACHING METHODS

Sodium hypochlorite is the principal chlorine bleaching agent used today; and it can be easily prepared in the plant by admitting chlorine gas into a tank containing a prepared solution of caustic soda, sodium carbonate, or a mixture of the two. The more strongly alkaline the solution, the more stable the hypochlorite formed; so the speed of bleaching can be controlled to some extent by adjusting the amounts of caustic soda and soda ash present.

The alkali content usually runs about 4% by weight. The stock solution produced in this way is diluted for use to a concentration of 0.5 to 3 grams of available chlorine per liter.

Good Process Control Is Necessary

The control of pH in hypochlorite bleaching baths is essential to control the rate of bleaching, the whiteness obtained, and the extent of the simultaneous degrading action on the cellulose. Optimum conditions have been empirically established as being in the pH range 9.5 to 11, which can be obtained and maintained over the bleaching period by using five grams per liter of sodium carbonate for NaOCl bleach baths of one to three grams per liter available chlorine concentration.

The temperature of the hypochlorite bleach bath is also of great importance. Temperatures between 55 and 70° F. are considered satisfactory; a temperature below 50° F. gives bleaching that is much too slow, while anything over 80° F. would be considered dangerous. An increase of 14° F. will nearly double the rapidity of the bleaching action, and the strength of the bath can therefore be adjusted to suit the temperature within the noted limits.

There are several methods of carrying out the bleaching. Piece goods may be saturated with the bleaching liquor and then laid down in bins or pits for the bleaching action to take place. Alternately, the fabric is piled into a kier and the bleach liquor is circulated continuously through the goods, or the fabric may be continuously moved through the bleach liquor in a beck or on a jig.

Raw stock and yarn in packages or on beams can of course be processed only by the liquor-circulation method. It is necessary to prevent exposure of hypochlorite-saturated goods to direct sunlight; otherwise localized degradation of the cellulose can take place.

If cloth is saturated with bleaching solution and then passed into a J-box of such size that it can be delayed in passage long enough to bleach it satisfactorily (normally 30 mins. or more), a continuous-bleaching operation is established.

After the bleaching has been completed, the goods must be washed thoroughly and are usually given an antichlor to remove all residual hypochlorite. Sodium bisulfite or sulfur dioxide introduced into water from a cylinder of the gas may be used for this purpose.

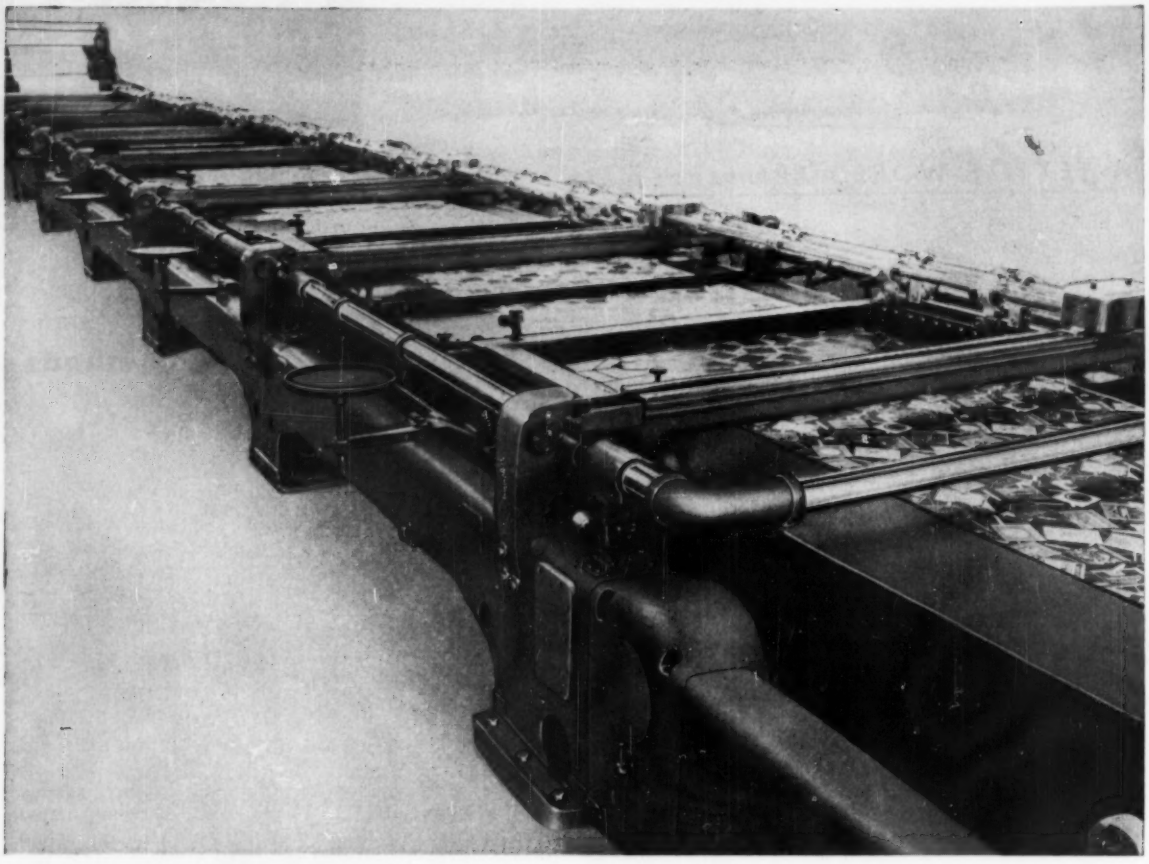
Sometimes a passage through dilute mineral acid (the so-called white sour) is used to decompose the last of the hypochlorite. (The white sour also removes calcium if bleaching-powder solutions have been used.) After such acid treatment, a neutralization with sodium carbonate is recommended.

PEROXIDE-BASED BLEACHING METHODS

Today peroxide has supplanted chlorine as a bleaching agent to the point where about 80% of cotton is bleached with peroxide. Virtually all of the strictly continuous-bleaching methods use peroxide as the bleaching agent, and about 90% of the cotton that is bleached with peroxide is bleached continuously.

Early controversies as to whether peroxide or chlorine produce the better bleach have been resolved on the basis

CONTINUED ON PAGE 94



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ICHINOSE-TYPE MULTI-COLOR AUTOMATIC SCREEN PRINTING MACHINE

The Ichinose screen printing machine, with more than 60 patented improvements, screen prints all kinds of fabric perfectly in up to 14 colors at nearly double the speed of other machines on the market. Finished prints are of highest quality: clean, sharp, accurate and far superior to hand or roller prints.

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FINISHES CAN NOW BE APPLIED AT LOWER COST THROUGH "UNIFOG" SPRAY PROCESS

A new process developed by the Dyes and Chemicals Division now makes it possible to spray finishing agents on lightweight and heavyweight flat woven goods, toweling, knit goods and a variety of other fabrics.

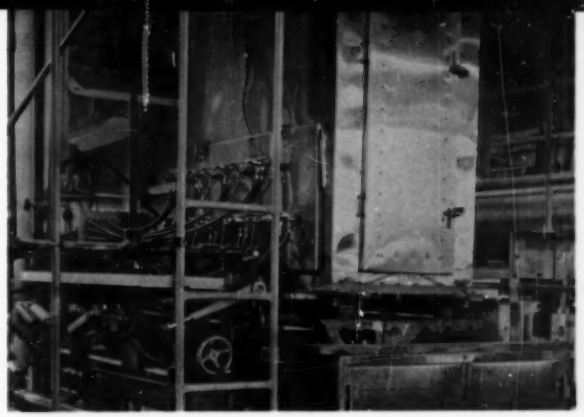
Called the "Unifog" spray process, it has already been used by several mills to apply finishing agents. The spraying operation has proved successful with aqueous solutions, dispersions, emulsions and molten solids. Development work for applying dyes by "Unifog" is under way.

Compared to conventional padding and drying methods, the "Unifog" process has two production advantages of special importance. Goods pick up only a fraction of the liquor that they do in padders. As a result, intermediate drying steps can often be eliminated, and other drying operations can be accomplished twice as fast. The finish can be applied more uniformly to wet fabrics than by padding.

How the process works

The basic idea of the "Unifog" process is simple. The finishing mix is piped from a supply tank to "misters," using air or preferably steam as the atomizing medium. Goods pass in front of, or between, the "misters" where they are sprayed on one or both sides. It makes little difference whether the fabrics are dry, partially dry or wet when they enter the range. They can then be dried in a hot air dryer, or in radiant-heat dryers at several times the normal speed.

Costs of installing, maintaining and operating the spray equipment are low. For example, the small and lightweight



This compact, lightweight unit is being used by one mill to spray finishes by the "Unifog" process. The "misters" can be seen at lower left.

spraying apparatus can be installed in present equipment space, or even supported by overhead beams. Maintenance is negligible because the "misters" can be cleaned simply by running water or steam through them. Operating costs are reduced through fuller use of supply tank mix and lowered heat consumption.

New finishing possibilities

With this new spray process, it is now possible to finish one side only or to apply one finish on one side, a different finish on the other side. It also appears likely that solvent systems and aqueous liquors could be used in tandem applications. Whatever your interest, you can now adopt the "Unifog" process without paying licensing or royalty fees. Get in touch with the nearest Du Pont district office for more details.

news from Du Pont

NEW! "LATYL"* BROWN MS DYE

"Latyl" Brown MS is a new, economical "Latyl" dye for "Dacron"* polyester fiber, characterized by its rich, "terra cotta" shade and good fastness to sublimation, light and wet processing. Because of its redness of shade, it is of exceptional interest as a replacement for orange dyes in the formulation of tans through dark browns. "Latyl" Brown MS has also been used to reduce the amount of red in combinations and is attractive for use in the production of navies and blacks.

"Latyl" Brown MS has excellent buildup and good stability when applied from aqueous carrier baths or from pressure systems without a carrier. When ortho phenylphenol-type carriers are used in the application of this dye, the dyeings should be heat treated so that optimum lightfastness is obtained. "Latyl" Brown MS stains wool to about the same degree as other dyes in the range.

"Latyl" Brown MS is of interest for printing "Dacron" type 62. It exhibits poor affinity for acetate and nylon, although it does have 40 to 80 hours' lightfastness on acetate in pale shades.

*Reg. U. S. Pat. Off.

FASTNESS PROPERTIES ON SPUN "DACRON"

	"Dacron" 54 Dowicide A	"Dacron" 64 Dowicide A
Light (Fade-Ometer)	Rating or Shade Change	Rating or Shade Change
0.5%	5 to 10 hrs.	5 hrs.
2.0%	5 to 10 hrs.	5 hrs.
0.5% Heat Treated 1 min. @380	40 to 80 hrs.	20 to 40 hrs.
2.0% Heat Treated 1 min. @380	40 to 80 hrs.	20 to 40 hrs.
Washing (A. A. T. C. C. #3)	Negligible or no change	
Washing (A. A. T. C. C. #3A)	Negligible or slight change	

Dyeing of "Latyl" Brown MS on fabric of 100% "Dacron" fiber.

NOW THERE'S A SCARLET VAT DYE WITH IMPROVED FASTNESS TO LIGHT, WASHING, PEROXIDE AND CHLORINE

"Ponsol"* Brilliant Scarlet RK Double Paste, a new anthraquinone vat dye, should now improve the fastness of bright pinks and scarlet shades in cotton and rayon fibers. Lightfastness is excellent, testing out to 160 hours on Fade-Ometer exposure. In addition, this "Ponsol" exhibits good fastness to chlorine and peroxide bleach, as well as excellent wetfastness when dyeings are properly soaped.

Tests indicate that the new dye will give best results in package dyeing mercerized cotton yarns and rayon yarns. Stability is good over a fairly wide temperature range, but affinity is poorer at high temperatures. The dye does not seem suited for continuous methods inasmuch as it approaches its true shade only after 5 minutes' soaping.

Complete information about the possibilities and applications of this new "Ponsol" vat dye is available from Du Pont dyeing specialists at a nearby district office.

Approximate shade of bleached mercerized cotton, package dyed with 10.0% "Ponsol" Brilliant Scarlet RK Double Paste.

FASTNESS PROPERTIES ON COTTON YARN

Light (Fade-Ometer)	Rating or Shade Change
5.0%	320 hours
10.0%	320 hours
20.0%	320 hours
Chlorine (0.3% available)	Negligible to slight
Peroxide Bleaching	Negligible to slight
Washing (A. A. T. C. C. #3)	Negligible
Washing (A. A. T. C. C. #4)	Negligible to slight

news from Du Pont

"SEVRON"* BROWN YL: A HOMOGENEOUS CATIONIC DYE FOR "ORLON"* AND OTHER ACRYLIC FIBERS

"Sevron" Brown YL adds to the rainbow of fast colors that can be efficiently applied to fabrics of 100% "Orlon" or other acrylic fibers. With this dye, it is possible to produce browns that range from light cinnamon to full chocolate shades.

Like other "Sevron" dyes, this new brown has very good fastness properties. It offers outstanding lightfastness as well as very good fastness to washing, perspiration and wet processing conditions.

Has desirable application properties

An important advantage of "Sevron" Brown YL is that it can be dyed levelly. It has good solubility, good buildup, and produces stable shades over a wide pH range. It has a half-dyeing time of 25 minutes, making it compatible with other fast-to-light "Sevron" dyes in the production of compound shades. "Sevron" Brown YL can also be used in printing fabrics of "Orlon" or blends of "Orlon" and wool.

Approximate self-shade of "Sevron" Brown YL when applied at 2.0% on fabrics of 100% acrylic fiber.

FASTNESS PROPERTIES

Light (Fade-Ometer)	Rating or Shade Change
0.5%	60 hours
2.0%	80-160 hours
Perspiration (acid)	Negligible to slight
Perspiration (alkaline)	Negligible to slight
Washing (A. A. T. C. C. #3)	Negligible
Washing (A. A. T. C. C. #3A)	Negligible to slight

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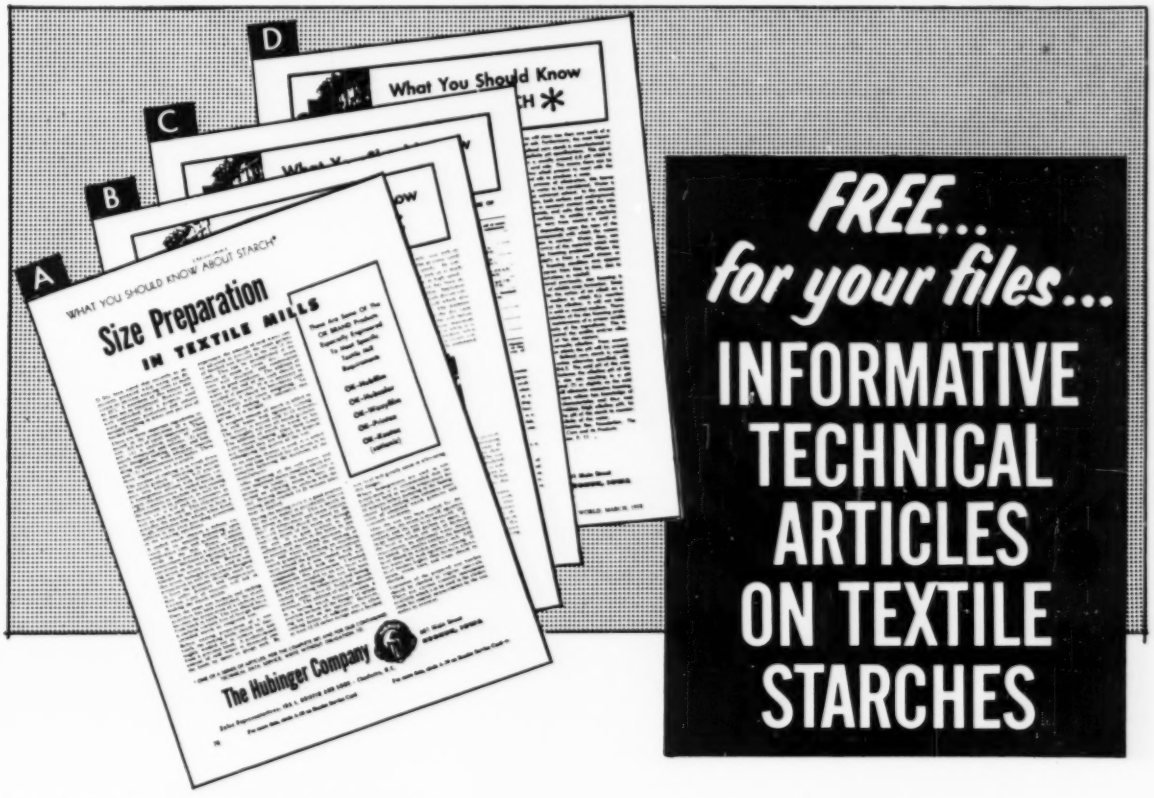

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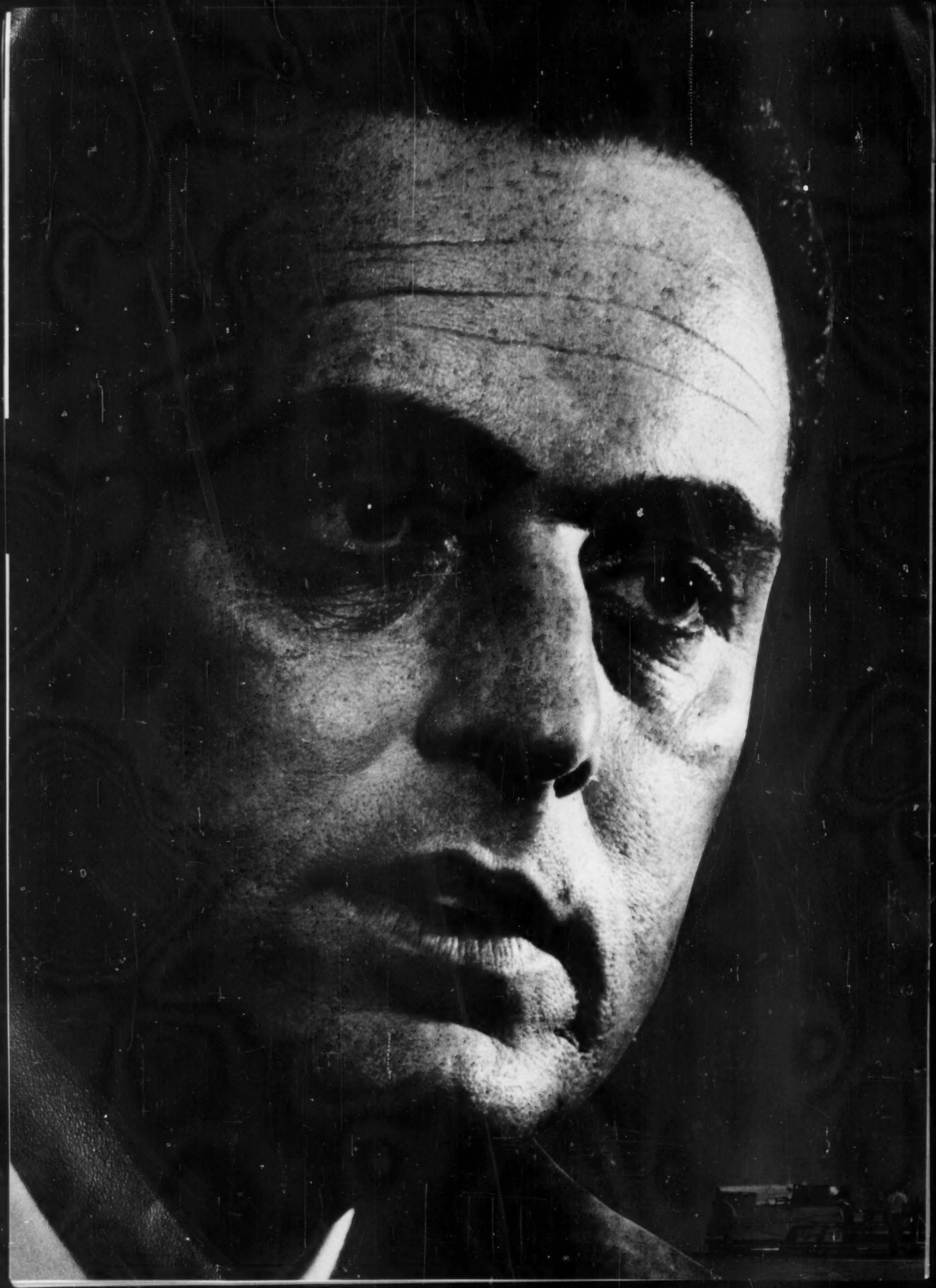

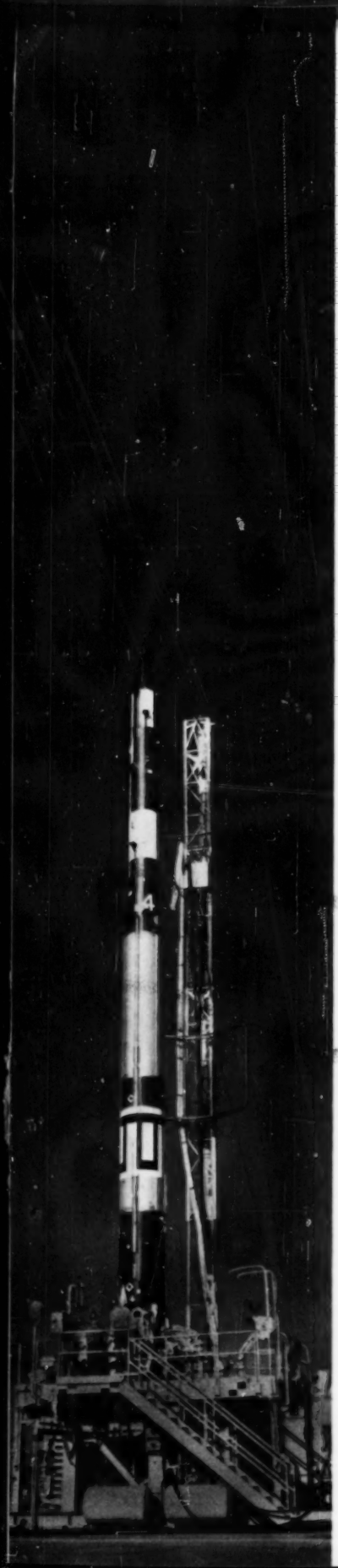

Clete Smith, who helped develop a special solvent formulation for flushing rocket fuel tanks, says you'll like doing business with Columbia-Southern

Technical Service Engineer Clete Smith is one of many Columbia-Southern specialists who recently teamed up to formulate a new solvent for cleaning rocket fuel tanks and other parts without damage to the special metals and alloys used in rocket construction.

Aimed at solving a specific customer problem, this product is one example of Columbia-Southern's emphasis on keeping customers' needs foremost. Throughout the company, the aim is to develop products and methods and to work closely with customers to insure the most effective use of Columbia-Southern chemicals—and service.

For example, Technical Service recommendations on vapor degreasing with Columbia-Southern Trichlor recently saved a large chain-saw manufacturer $2,100 in tank maintenance costs in just 22 weeks. And an analysis of a window-frame vapor degreasing set-up, also using Trichlor, resulted in a 30% reduction in solvent consumption.

These are just some of the reasons why so many companies in every industry find it pleasant—and profitable—to do business with Columbia-Southern. They like the extra service Columbia-Southern routinely delivers along with its quality products.

Anhydrous Ammonia, Barium Chemicals, Benzene Hexachloride, Calcium Chloride, Calcium Hypochlorite (Pittchlor®, Pittabs®), Carbon Tetrachloride, Caustic Potash, Caustic Soda, Chlorine, Chlorinated Benzenes, Chloro IPC, Chrome Chemicals, Hydrogen Peroxide, Muriatic Acid, Pacific Crystals, Perchlorethylene, Rubber Pigments (Calcene®, Hi-Sil®, Silene®), Soda Ash, Sodium Bicarbonate, Sodium Sulfate, Titanium Tetrachloride, Trichlorethylene

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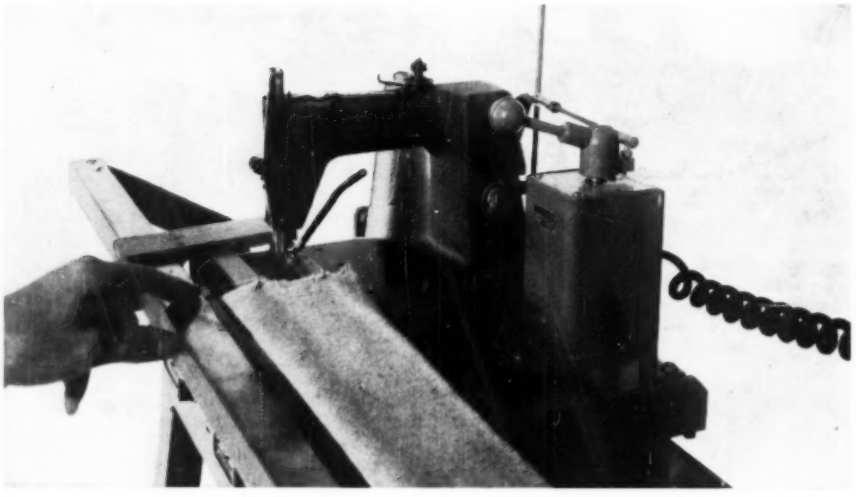
LC RAILWAY SEWING MACHINES

now featuring a chaining-on device which eliminates much of the trouble with turned selvages during subsequent finishing operations.

These high speed machines are furnished for maximum cloth widths of: 56", 64", 72", 80", 90", 100", 110" and 120", and supplied as a Way with Sewing Machine head to be mounted on a scray, etc., or as a complete moveable unit with legs and locking casters. Either Singer (chain stitch) or Merrow (butted seam) heads available.

New bulletin No. 349A describing the LC on request.



Starting the chaining-on before needle reaches selvages.

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CONTINUED FROM PAGE 85

that economics should decide the choice.

The bulk of hydrogen peroxide is available for textile purposes in stabilized grades containing 35 and 50% H_2O_2. It is necessary at all times to protect the peroxide from sources of contamination and keep it from coming in contact with any other types of surfaces than stainless steel, aluminum, porcelain, or glass.

How Formulations Are Figured

In general, there must be a certain minimum concentration of peroxide in contact with the goods. If a long bath is used, a larger proportion of peroxide is decomposed from solution without bringing about any bleaching; so the shortest bath that will still give uniform treatment is the most economical. The accompanying table indicates the wide range of peroxide concentrations in common use in various types of batch bleaching.

The exact amounts of chemical agents necessary for good bleaching vary with the quality of the cotton, the degree of preparation of the material, and the rate of bleaching desired. Other things being equal, a combination of minimum volume of liquor and minimum concentration of peroxide by weight of solution will be most economical.

The desirable pH for peroxide bleaching is 10.3 to 10.6, although under unusual circumstances a pH as low as 8 or as high as 11.5 may be recommended. At too high a pH, all the peroxide may be decomposed before adequate bleaching is accomplished unless unusually large amounts were originally present.

There is also evidence that if the pH of the bleach bath is over 11, material that has previously had a thorough preparation or partial bleach may be damaged, as indicated by dangerously high fluidities. The time required to bleach also varies inversely with the temperature and is influenced in addition by the type of goods and equipment; 45 mins. to 5 or 6 hrs. represents a range of normal bleaching times at temperatures of 180 to 210° F.

The variation in nature and amount of alkaline agent used in bleaching as shown in the table reflects the differing alkali requirements of the individual methods. The total alkali, calculated as silicate and on a solution basis, usually is from 1 to 3%.

Ordinarily, most of the alkali is supplied by silicate and the remainder by caustic (or sometimes other alkalis). The object is to maintain a well-established peroxide bath at the proper pH for good uniform bleaching in a reasonably short time.

Optical Brighteners Help Appearance

The use of optical whiteners (brighteners, or fluorescent white dyes) to enhance the appearance of bleached goods to be sold as whites is common.

Optical bleaches do not absorb in the visible region but only absorb invisible ultraviolet and re-emit this energy at the short-wave end of the visible spectrum; so they accomplish the result of producing uniform reflectance (therefore apparent whiteness) but with increased rather than decreased brightness. Fluorescent brighteners do not replace bleaching; they may, however, eliminate the need for a longer or more-severe bleach.

Optical whiteners have substantivity for the fiber and

Form of material	Fiber, stock	Yarn	Fabric	Fabric	Knitted fabric	Hosiery
Machine used	Circulating raw-stock machine	Package machine	Kier	Jig	Beck	Rotary hosiery machine
Liquor-to-fiber ratio	8 to 1	10 to 1	6 to 1	1 to 1	6.6 to 1	20 to 1
Amount of 35% H_2O_2						
On weight of fiber (owf.)	3 to 4%	5 to 10%	0.5 to 1.5%	1.17 to 2.34%	3.5%	14 to 22%
On weight of solution (ows.)	0.37 to 0.5%	0.5 to 1.0%	0.08 to 0.25%	1.17 to 2.34%	0.53%	0.7 to 1.1%
Sodium silicate, 42° Bé						
(owf.)	3.5%	4%	1 to 3%	0.84 to 1.33%	—	18%
(ows.)	0.44%	0.4%	0.17 to 0.5%	0.84 to 1.33%	—	0.9%
Sodium carbonate						
(owf.)	1.0%	1.0%	—	—	—	—
(ows.)	0.125%	0.1%	—	—	—	—
Tetrasodium pyrophosphate						
(owf.)	—	—	0.25%	—	—	—
(ows.)	—	—	0.04%	—	—	—
Sodium hydroxide						
(owf.)	—	0.5%	0.06%	0.04%	3.0%	—
(ows.)	—	0.05%	0.01%	0.04%	0.45%	—

HERE IS A COMPARISON OF TYPICAL FORMULAS that are used to bleach cotton in various forms with hydrogen peroxide.

are applied like dyes. Some are resistant to oxidation and can be added directly to the bleach bath, while some must be applied in a separate bath or in the last rinse after bleaching. Usually about 0.05% brightener based on the fabric weight is sufficient.

When fabric that contains colored yarns (ordinarily dyed with vat and naphthol dyestuffs) is to be bleached, the preliminary scour with caustic is not used. Two successive bleaches, sometimes using lower peroxide concentration and somewhat lower pH, are substituted. A hydrogen-peroxide bleach liquor that contains free caustic soda tends to promote the bleeding of some azoic dyes particularly; so soda ash is preferred for this type of goods.

Raw Stock Needs Good Preparation

The treatment of raw stock to produce absorbent cotton requires an especially thorough alkaline scour for which specially constructed kiers are sometimes used. This scour is followed by bleaching with either hypochlorite or peroxide in the normal manner, after which an acid rinse to reduce the mineral content is given; bluing and treatment with acetic or tartaric acids to obtain a "scroopy" hand are optional.

Mixtures of hydrogen peroxide and sodium peroxide are used in formulations to produce the desired caustic content in solution. But because sodium peroxide is unstable and highly combustible, it is now not much employed in textile processing.

Even though peroxide bleaching is normally carried out at elevated temperatures, cold bleaching with peroxide is possible and sometimes desirable. Equipment needs are simple: a mangle for impregnating with the bleach solution, trucks or other means of storage, and some type of washer.

The procedure is to saturate with approximately 4.3% solution of H_2O_2 (35%), stabilized with 2.0% silicate and 0.5% each of caustic and soda ash, cover the goods with a plastic sheet to prevent evaporation, and allow them to lie at room temperature for 24 hrs. This procedure is followed by a short hot wash with 1% soda ash.

Fabrics of a wide range of weights have been bleached by this method with whiteness and absorbency quite comparable to hot bleaches and with a lower fluidity. The method is well suited to cotton-viscose or cotton-acetate blends. The peroxide cost is of course high; and when the goods are steamed, as in printing, there is somewhat more tendency for color reversion to take place than with hot-bleached fabric.

Pressure Bleaching Cuts Time

At the opposite extreme, there is at present considerable interest in high-temperature bleaching at superatmospheric pressures giving temperatures of 240 to 250° F. This method is so far possible only in closed circulating-type machines; it has been successfully employed in bleaching yarn in package machines. It requires a higher percentage of peroxide and other chemicals, and its chief advantage lies in a shortening of the time necessary to bleach. Contrary to what might have been expected, the damage to the cellulose is well within safe limits.

A logical extension of this high-temperature procedure is a combined scour and bleach at about 250° F. Hard-to-bleach Indian cotton for blankets has been satisfactorily processed in this way with the result that the normal time for scouring and bleaching was cut by one-half to two-thirds. Again this time saving has to be weighed against increased chemical costs. Control of pH and proper formulation with respect to stabilized and other alkalis is also important here.

The Laurel Leaf

BUSINESS MAGAZINE EDITION

Which of these LAUREL TEXTILE SPECIALTIES will help you cut your processing costs?

- ☐ Soaps—all titres—prepared to highest standards for every textile need—fulling, scouring and finishing. Raw stock, woolen and worsted goods. Scouring and dyeing all synthetic fibers. Soaping vat-dyed cotton yarns and piece goods.
- ☐ Olapon—a series of synthetic compounds for scouring and dyeing all natural and synthetic fibers.
- ☐ Hydrosol—cresylic acid scouring and kier assistants. Especially good for use on wool and cotton.
- ☐ Mercerizing Penetrants—a series of cresylic acid type penetrants for use with all strengths of caustic soda up to 80° Tw. Non-Cresylic types are also available.
- ☐ Laurel Transfer Removers—a line of products for all types of transfers to be applied by either wet or dry processing.
- ☐ Boil-Off Compounds—Boil-off oils. Triconate boil-off powders. Supersulfate neutral boil-off powders.
- ☐ Amine Condensates—straight and compounded to suit your requirements.
- ☐ Alkyl Aryl Sulfonates—Liquid, paste, and powder. Neutral or built for all purposes. Amine or sodium salts available.
- ☐ Sulfated Esters—for wetting, dyeing, rewetting. Preshrinking assistant.
- ☐ Lauramine 20—superior packaged dyed yarn lubricant and softener. Does not yellow whites or alter shades.
- ☐ Lauramine 20A—A liquid form of Lauramine 20. Predispersed for simplified use.
- ☐ Catamine SF—excellent cationic softener for natural and synthetic fibers. Easily dispersed. Particularly effective on Orlon and wool knitted fabrics.
- ☐ Sulfonated Oils—tallow, caster, olive, neatsfoot. Available straight or compounded for special finishing problems.
- ☐ Flame Retardants—a series of renewable type products to cover all requirements on cotton fabrics.
- ☐ Water Repellants—renewable type.
- ☐ Sizes—Resin and gelatine sizing and finishing compounds for all fibers and fabrics.
- ☐ Hydrocop & 3B Softener—Wax Emulsion WG, Wax Emulsion R, Ruxite A—for softening, conditioning, and lubricating all natural and spun synthetic yarns for knitting.
- ☐ Coning Oils—for all synthetic yarns—filament and spun.
- ☐ Hosiery Finishes—a complete line of resin hosiery finishes.
- ☐ Dullers, Weighters and Conditioners—a full line to meet your requirements.
- ☐ Antifoams—quick, easy-to-use. Readily dispersed; stable.
- ☐ Antistatic Compounds—non permanent types for all fibers.

Check your needs . . . then tear out and mail this advertisement for complete details.

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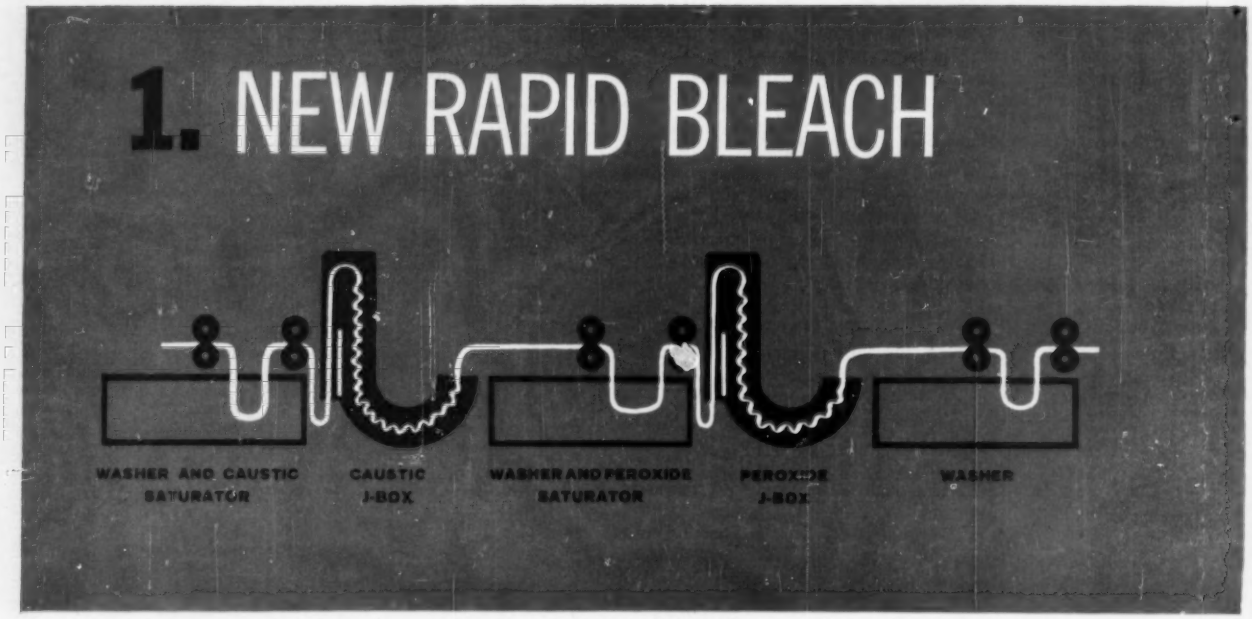
CIRCLE 95 ON READER SERVICE CARD

From Du Pont—originator of Solo-Matic* Bleaching

Two new cost-cutting

1. NEW RAPID BLEACH



ADVANTAGES

- **Cuts cloth storage time to as low as 8 minutes in each J-box**
- **Cuts J-box costs up to 75%**
- **Eliminates bruises, rub marks, creases**
- **Reduces headroom up to 50%**

DESCRIPTION

Rapid Bleach is a new continuous process for medium to heavyweight fabrics that can improve bleaching quality. It's a fast bleaching process that incorporates the caustic pre-treatment in the first J-box. This process is simple, compact, continuous and reduces mechanical handling operations. Rapid Bleach can be adapted to any continuous or semi-continuous open-width system. It can be used for medium-weight cotton fabric and is especially suitable for hard-to-handle heavyweight fabrics that are susceptible to bruising.

HOW YOU CAN PROFIT FROM DU PONT'S PROCESSES . . . SERVICES . . . PRODUCTS

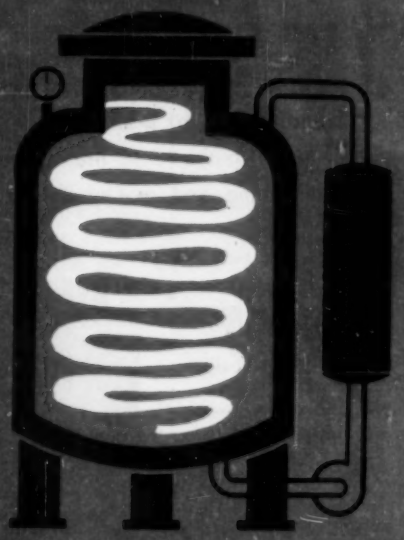
Whether or not you use any one of the Du Pont developed bleaching processes, you can count on the advice and help of an experienced Du Pont Technical Representative. He will help you with any bleaching problem that might arise or, if you wish, he can conduct a confidential survey of your entire bleachery to pinpoint where and how you can save money, improve bleaching.

Du Pont bleaching agents ensure excellent uniformity and high bleaching efficiency. All are thoroughly tested and proved by successful mill experience. All are available from convenient shipping points. Du Pont offers modern bleaching processes, technical services and quality products to help you keep *your* bleaching quality high—and your costs low. Use them and profit!

ALBONE® hydrogen peroxide SOLOZONE® sodium peroxide PERDOX® sodium

bleaching processes

2. NEW PRESSURE BLEACH

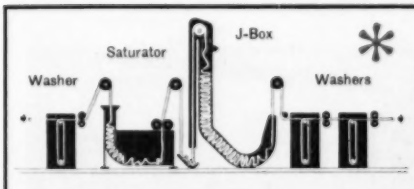


ADVANTAGES

- **Reduces process time up to 50%**
- **Doubles production in the same space**
- **Uses present equipment**
- **High-quality bleaching**

DESCRIPTION

This new high-speed bleaching process for kiers and package machines is a pressurized or high-temperature system that eliminates the need for caustic boil pre-treatment. The Pressure Bleaching process is used in cases where a plant's output or space does not warrant a continuous setup . . . can be easily adapted to present equipment. All types of cotton fabric, yarn and raw stock can be bleached uniformly at the lowest cost.



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CIRCLE 97 ON READER SERVICE CARD 97

Large-Package Dyeing Cuts Costs for Homestead Mills

Homestead Woolen Mills, W. Swanzey, N. H., is getting good results from a large-package dyeing system that—

- **Handles 2½-lb. packages**
- **Cuts down waste in the dyeing of small lots**
- **Saves time and money on larger runs**

HOMESTEAD WOOLEN MILLS, INC., has found that its large-package dyeing machines are a great help in supplementing its stock- and piece-dyeing operations.

The plant spins and weaves woolen fabrics in the medium-price range that for the most part go into women's wear.

The yarns are spun in a variety of weights from ⅞ to 4½ run and from them are produced a range of woolens in plaids, tweeds, heather mixtures, and solid-color fabrics.

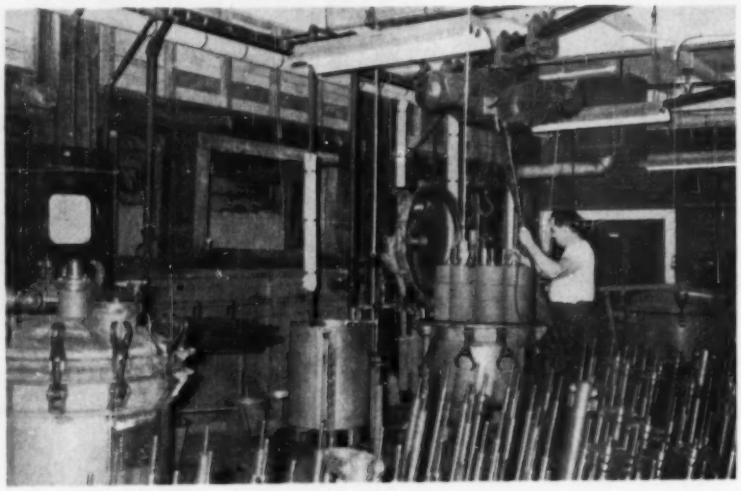
The plant also spins yarns made of Orlon-wool and nylon-wool blends.

Small Machines Paved Way

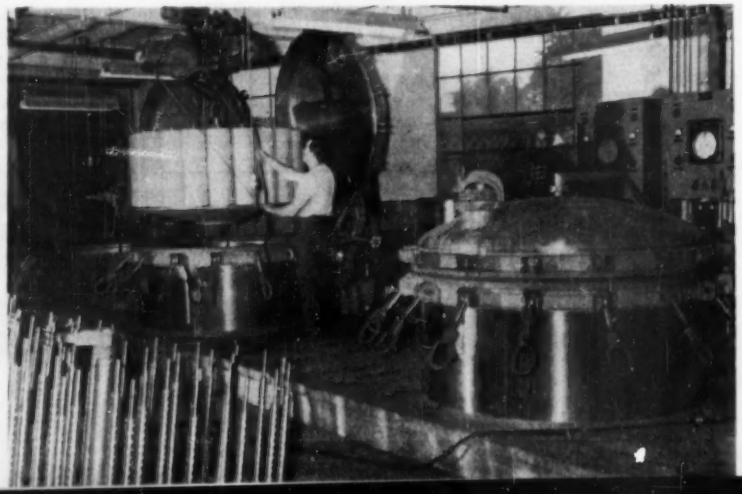
Homestead started its yarn-dyeing operations with two 100-lb. machines that were set up to take the usual 1¼-lb. package. Results from this installation were so good that the larger machines were added to increase the advantage.

Discussing the yarn-dyeing operation at the plant, Sumner E. Brown, company treasurer, said: "One of the big advantages is that we have less waste of material by this method than by stock-dyeing. This is particularly true in small lots or when we misjudge a large lot and need more dyed yarn to complete it.

"It's a relatively simple matter to package-dye yarn and rewind it for weaving. But to put 100 or 200 lbs.



HOMESTEAD STARTED PACKAGE DYEING with two 100-lb. machines of this type. Originally built to handle 1¼-lb. packages, they have been converted to carry the 2½-lb. packages.



TWO 500-lb. MACHINES with the latest control equipment give the plant adequate production of dyed yarns on 2½-lb. packages. Dryer is at left end of platform.

of dyed stock through carding and spinning takes time and makes a lot of waste, and then you most likely will have to clean out the whole range before you can use it again. So we're time and money ahead in several ways with the package-dyeing method."

How the System Is Worked

The spun wool is first wound on stainless-steel springs to make up packages of about 2½ lbs. The packages are loaded on the spindles of the dyeing machine. Pressure is applied to the top package by hand, and a self-locking cap maintains the pressure during processing.

All-wool yarn is first scoured for 15 mins. at 150° F. to wet out the yarn thoroughly and remove some of the natural grease and spinning oils.

Then a cold rinse is given the yarn for 30 mins. with running cold wat The machine is next allowed to fill with fresh water, Glauber's salt and acetic acid are added, and the temperature is brought to 100° F.

If premetallized colors are to be used, the Glauber's salt is replaced by ammonium sulfate. In either case, the dyestuff is added next and the machine is put on the cycling controller. Cams for the controller are cut so as to bring the lot to the boil in about 1 hr., and then the lot is let run for 30 mins. to 1 hr. before a sample is taken for shade.

Blends Are Easily Handled

Orlon-wool blends that require basic colors for the Orlon are a natural for the package machine because the basic dyes require a temperature of 225° F. to exhaust well on the Orlon.

Homestead's routine for Orlon-nylon blends starts with the usual scour; and after a rinse, the wool dyes are added. The wool is dyed for about 30 mins. at the boil; then the temperature is dropped to 160° F. and the basic dyes are added along with 2% acetic acid, or to a pH of 3.5.

Then the bath is raised to 225° F. to drive the color on the Orlon while the balance of the acid dyes are picked up by the wool. In the conventional percolating stock-dyeing machine, it would not be possible to get a high enough temperature to exhaust the basic colors on the Orlon.

Nylon-wool blends are also a part of Homestead's regular production. These yarns are dyed with acid milling colors specially chosen for their level-dyeing qualities. The bath is made up with 3% acetic acid owg. and 3% of Tinegal RWI, a retarding agent. The yarn is dyed at the boil until the shade is matched.

Selected chrome colors work well for nylon-wool blends also. After dyeing, the yarn is chromed with sodium bichromate in the usual manner.

All dyed yarn is thoroughly rinsed and cooled and then put into the drying chamber. Here water is blown out of the yarn from outside in; then hot air is forced through from inside out until the yarn is dry.

The dry yarn is then wound off the dye springs.

The plant is producing better than 5,000 lbs. per week of package-dyed yarn in a one-shift operation.

TIPS TO TROUBLESHOOTERS

Finishes May Reduce Sulfur Dyes

We ran into a lot of trouble with some sulfur-dyed goods that had passed every shade-change test but one by the time they had got to the compressive-shrinking machine. After they'd been shrunk, they had turned from a good solid dark gray to an unacceptable greenish gray.

After much checking, we located the cause of the trouble. The goods were finished basically with resin, which hadn't affected the shade too much; but the finisher added a dextrin-oil-weighter-softener-odorant mixture to the goods to modify the hand.

There were two reducing agents in this finish, and they had reduced the dyestuff.

We repaired the damage by passing the goods through a weak solution of sodium perborate and a small amount of an emulsifier in an open soaper range. The first box contained only water at 140° F. The second box was charged with the perborate and the emulsifier, which took care of any tendency of the bath to form a scum.

Two hot rinses finished the job. As an added bonus, we got about 8% better wrinkle recovery on the refinshed goods —Walter Frederick

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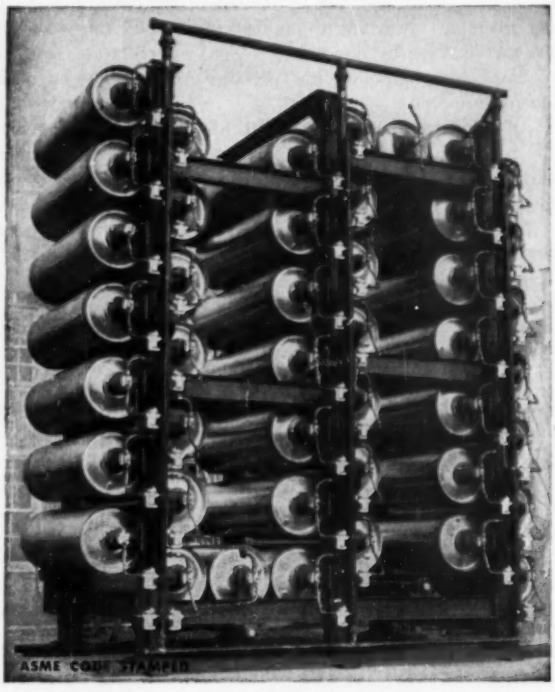

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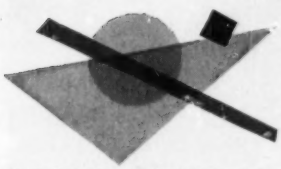

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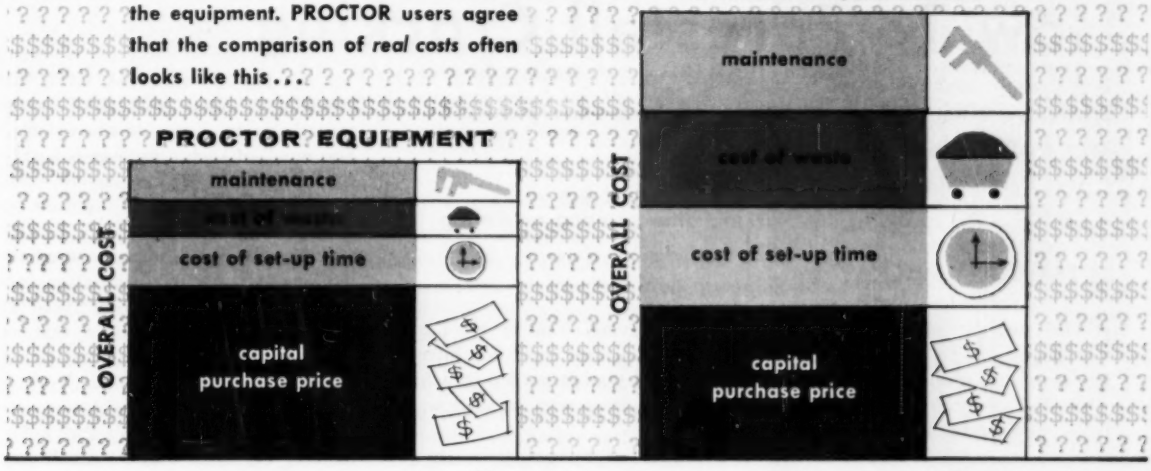

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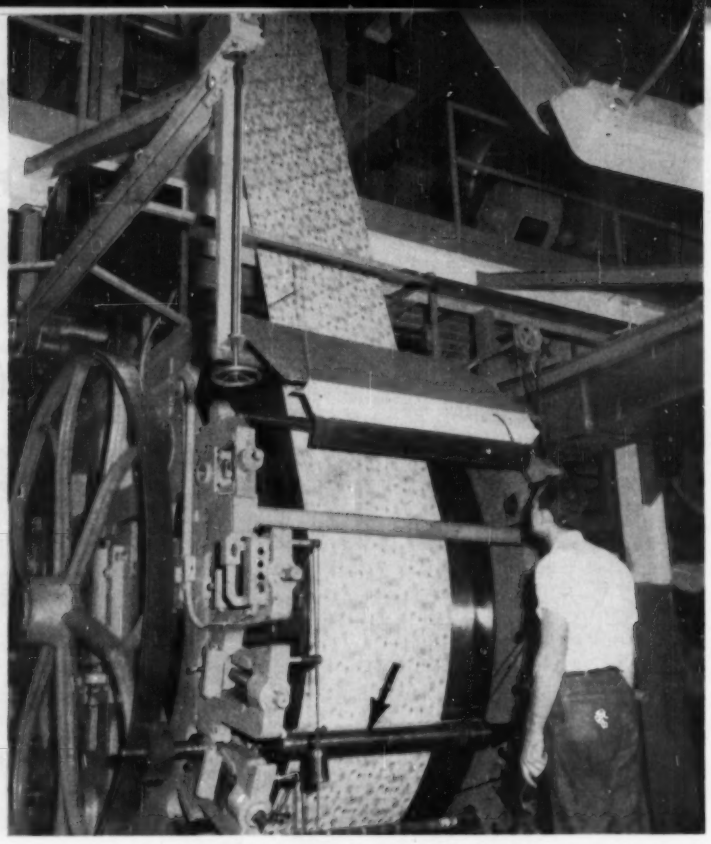
CIRCLE 101 ON READER SERVICE CARD 101



THE CRUSH ROLLER shown in this printing operation (arrow) is one of the best methods of reducing the tendency of some colors to crock.

How To Forestall Crocking

Crocking is often a problem to the printer and dyer. Here are some pointers that—

- **Will help reduce crocking to a minimum**
- **Can be used to overcome crocking after printing or dyeing**

By MALCOLM MACKAY

CROCKING OF PRINTED OR DYED GOODS can be reduced considerably if certain precautions are taken.

The first essential is to be sure that the goods have been thoroughly freed of sizing and other foreign matter before they are dyed or printed. Sizing left in the goods absorbs color itself and retards penetration of the color into the fiber.

Goods that have been poorly bleached also resist absorption of color and can be expected to crock to a greater extent than well-bottomed fabrics.

In printing, a deep engraving has been found to be helpful in reducing the tendency of some colors to crock. Deep engravings transfer more color to the goods, and the color intensity can be less than is needed to achieve the same effect with a shallow engraving.

Shallow engravings tend to give surface prints that are very susceptible to crocking because they lack penetration into the fiber. The effect is most noticeable on heavy fabrics like corduroys or flannels.

Assistants May Reduce Crocking

Some preparations that aid penetration have been found to be helpful in reducing crocking. In cases where poor preparation or residual sizing material, or both, are inducing crocking, a good wetting-out agent often helps to overcome the trouble. Too much of such a product is harmful because an excess amount can affect the washfastness of the print or dyeing.

A plain or crush roller mounted on the printing machine will often cut down the tendency of a color to crock. The position of the roller that is printing a color liable to crock is also important.

For instance, if the crock-sensitive color is printed No. 1 in a four-color pattern, the color will be much less apt to give trouble than if it is printed last and without a following crush roll.

Wet or dry crush rollers may be used to reduce crocking. The dry crush roller, which must be the same size as the rollers in the pattern, is a driven roller and redeposits color picked up from the cloth. Color yield is thus increased, but with a wet crush roller about 10% of the color is lost.

The dry crush roller must be

watched carefully because lint or threads will adhere to this roller and cause squeeze-outs or light spots in the printed figures.

Vat Dyes Crock Little

Vat colors show the greatest crock resistance, which is principally due to the method by which these colors are fixed.

Vat dyes are applied in a mix that contains the finely ground pigment plus a reducing agent, an alkali, and a hygroscopic material.

At the time of application, the vat dye is still in the insoluble form but is reduced during the ageing process to the leuco form. In the leuco state, the color enters and becomes a part of the fiber. The oxidizing process that follows converts the dye back to its insoluble form while it is locked within the fiber.

Vat colors may crock if they are insufficiently fixed, overdried when printed, or let lay too long before ageing. Improper ageing may also cause vat colors to crock.

Tips on Azoic Colors

Printed naphthol colors usually have excellent crock resistance. The naphthol base is generally applied on a pad and is well penetrated into the fiber.

If the coupling procedure that takes place on the printing machine is retarded by lowering the pH of the naphthol-salt mix, prints with good crock resistance are obtained.

Rapidogen-type colors are more likely to give crocking trouble than the regular naphthols previously described. Rapidogen-type colors are a one-package product that contains the naphthol, the base, and a stabilizer.

These colors are applied from strongly alkaline pastes that solubilize the color. The color must be kept soluble until the print is aged to insure good yield and fastness.

The Rapidogen-type colors are aged in an acid atmosphere at 200 to 230° F. The alkali in the paste is neutralized by the acid vapor, and the naphthol and base couple *in situ* to produce the desired shade.

Slow ageing with weak acid produces the best results, because the components couple more slowly and the fiber is better penetrated than when a more-acid condition exists in the ager.

Some Rapidogen-type colors can be aged very fast but are generally more expensive than slower-ageing combinations.

As with other types of dye, there are some naphthols that are better in respect to crocking than others; and new color combinations should be checked out in the laboratory before they are put into production.

Resins Help Pigments

Water-in-oil emulsions are used extensively to carry pigments for printing. Pigment prints have excellent all-around fastness but tend to crock in deep shades.

However, for most purposes, crocking is satisfactorily controlled by incorporating a latex or an acrylic resin in the printing emulsion. The latex or resin forms a continuous film around each pigment particle that reduces the tendency to crock.

Oil-in-water printing emulsions are becoming increasingly important as carriers of pigments for printing. In this system, crocking is generally less of a problem than with water-in-oil emulsions.

Latices and resins are also used in oil-in-water emulsions to cut down crocking. The oil-in-water system prints more on the surface and prints sharper, and colors are cleaner and brighter than those produced by the older method. Up to now, however, the water-in-oil system is in greater use, probably because there has been more time to work out the bugs that any printing or dyeing method is sure to develop.

How To Improve Crocking

Assuming that a print will not pass a reasonable crocking test, it is sometimes possible to aftertreat it so that it will be entirely acceptable in respect to crocking.

Such goods may be padded in a latex or resin solution that will form a film over the color and keep it from transferring to another surface.

A better way is to overprint the goods with a blotch roller furnished with a latex or resin emulsion. In this way, sufficient protection can be given the color without ruining the hand of the fabric, which is not often possible when the padding method is used.

While such corrective methods are often useful, it is better to avoid crocking trouble at the point of application rather than by some aftertreatment that can have undesirable side effects.

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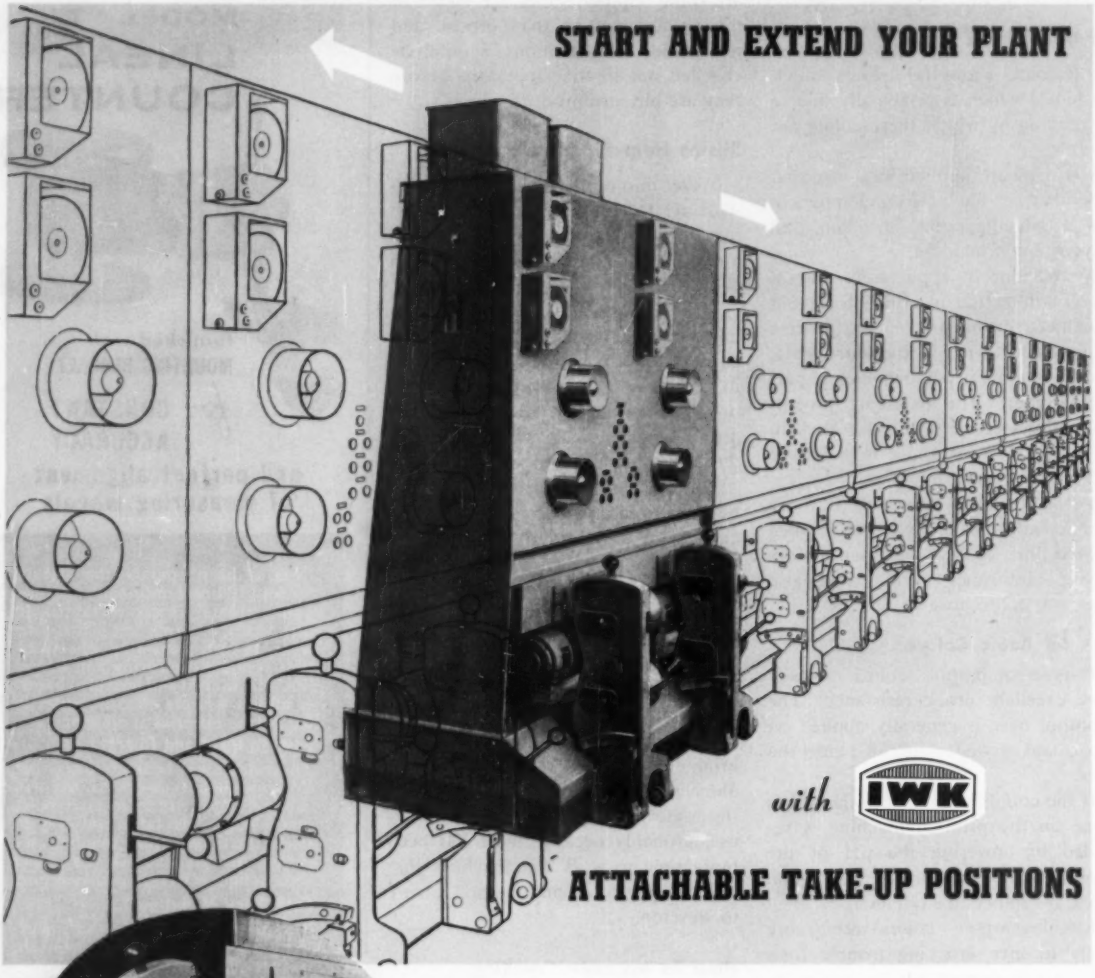

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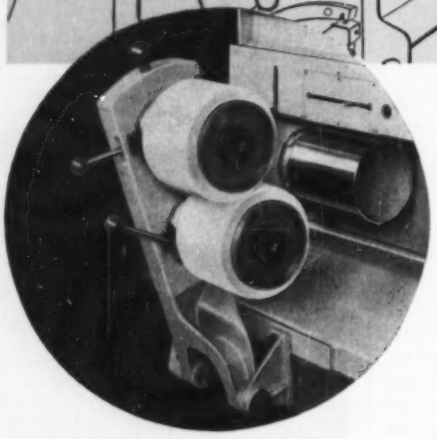

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How To Use Success

By **AUREN URIS,** Research Institute of America

Everyone was happy but the superintendent.
"Great day for the mill," an overseer remarked.
The superintendent continued to look sour.
The overseer said, "Going over the top on production goals by 5% was quite an accomplishment."
"I'm worried," responded the superintendent.
"What about?"
"Every time someone scores a success," was the reply, "there's always a backslide."

Perhaps you feel the superintendent's view is overly pessimistic. Certainly it's true that sag doesn't necessarily follow a successful effort. At the same time, many a supervisor can look back over his experience and find unfortunate examples that back up the superintendent's fears.

The Problem of Success

For supervisors, the question of the aftermath of success becomes most sharply focused in cases of individual employees:

1. Tom Drake comes up with an excellent suggestion for improving a work method. But will he rest on his laurels or go on to further triumphs?

2. Bill Bevans performs a special assignment in an outstanding manner. Is the result that he feels he's "done his share," and does he expect you to look to others to take on future special jobs?

Of course, there's no black-and-white answer to the question. Each person reacts in his own individual way. But there's no doubt that you can help consolidate the successes scored by your people and encourage their continuing endeavor.

When one or a group of your employees has clicked, here are some of the moves to consider:

1. Recognize the feat. "Make a fuss about it," is the way one manager worded his advice. The fact is, as long as things go along smoothly, we're inclined to take them for granted. When things go wrong, we tend to dwell on them.

Avoid this trap by keeping an eye out for things that go right. And when they do, make sure the people involved know that you know and that you appreciate the performance.

2. Spread the word. In addition to letting subordinates know you're aware of outstanding performance, inform others in the company who might logically be interested.

What you do depends on the situation. A note to your superior calling attention to the success might be appropriate. A letter of praise from another department head tacked up on the bulletin board also tells the story.

3. Look for the causes. Most supervisors go along with the idea that one way of repeating a success is to spot the causes. Pinpointing the factors improves chances for repetition. For example, an employee who is able to pull off a great play because of intense application to details may be reminded of this fact on a second assignment.

4. Analyze your own role. This point relates to the previous one. Your team may have done the "impossible" because of your own contribution:

You may have taken more pains to explain the background of the problem or assignment.

You may have helped plan the effort.

You may have assisted from the sidelines, checking on possible overtime problems, alerting other supervisors, pulling in temporary help.

5. Keep the success alive. A taste of success can be mighty sweet for some time after the event. Obviously, you're not going to dwell forever on the memory of one triumph. But don't drop it like a hotcake the minute you've shown recognition. A reminder of the success can be powerful motivation for future efforts.

6. Help them reset their sights. With some individuals, this is likely to be the most important step of all. People of ambition, or those who get bored easily, are likely to be disinterested in merely duplicating a past success. Stress the challenge of a more-difficult goal. One supervisor does it in this light vein: "You did fine in that preliminary bout. Now how about taking on a really tough one?"

The above points, taken together, suggest a series of questions you might ask yourself whenever the "problem of success" presents itself.

A. Do you know the exact nature of the success that's been scored, such as . . .

. . . what the employee accomplished?
. . . the difficulties or handicaps that were overcome?
. . . other people who contributed?

B. Have you let the employee know you know of his accomplishment because . . .

. . . you've praised his effort in appropriate terms?
. . . you've praised his ingenuity, imagination, etc.?
. . . you've praised his accomplishment?

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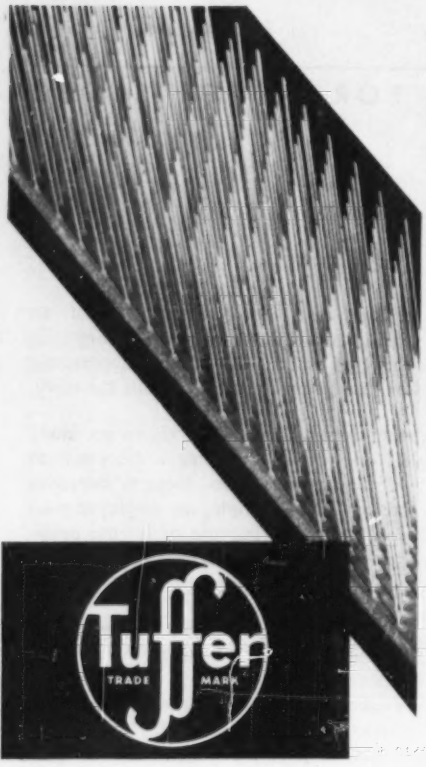

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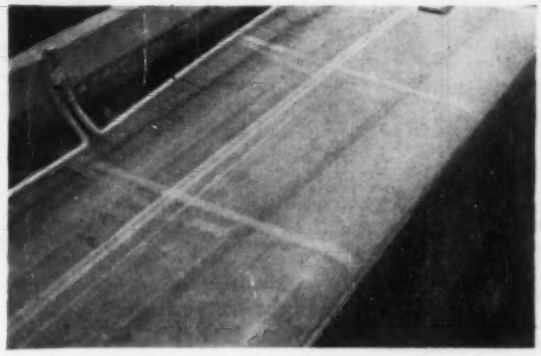
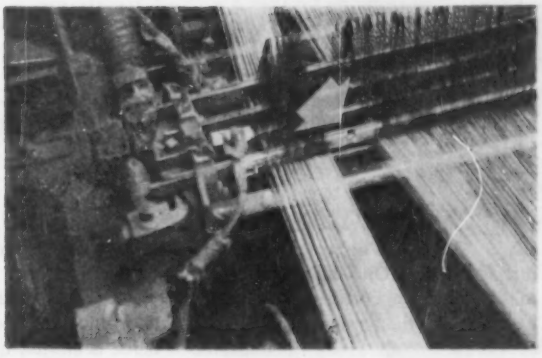




We weave tobacco cloth on many of our looms. Construction is 8 to 12 ppi. and sometimes 14 ppi. The warp body is woven single dent in the reed. The fabric is woven double on the loom with both selvages at the right-hand side.

Several bars run warpwise and fillingwise of the fabric as shown in the photograph of the fabric. The ends of the warp bars are reeded 24 to 30 per dent, and the filling bars are made by pulling take-up gears out of mesh at the bars.

With this construction, the fabric is difficult to weave because the warp ends of the fabric body run slack and the electric warp stop motion makes false stops. Therefore we had to run the fabric with the stop motions disconnected.

As a result, if the take-up failed to remesh after a cross bar was made or if the pattern became slack for any other reason, the pattern would tear out completely in as short a time as 45 secs.

To save these patterns, we cut a V-groove 7 ins. from the right-hand end of one stop-motion contact bar, as shown at the arrow in the second photograph. This 7-in. section of bar contains drop wires for selvage ends and is connected to the loom solenoid. All other contact bars are disconnected.

Now when the warp becomes slack for any reason, the selvage ends in the energized stop-motion bar also become slack and stop the loom before any damage is done.

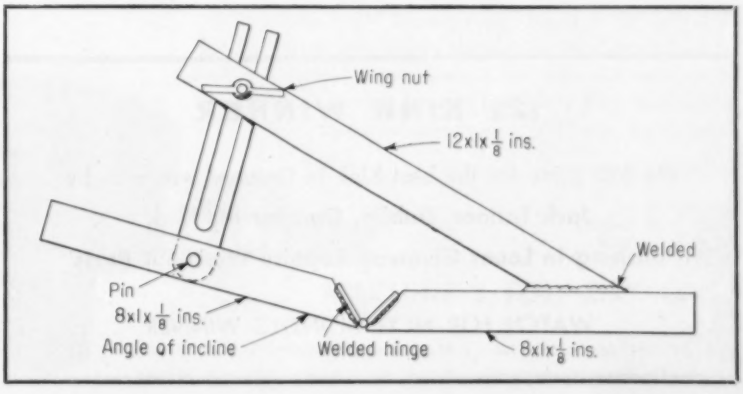
We always use our older contact bars to cut the groove in so that new ones aren't ruined. (K-168) *John H. McGowan, Spartanburg, S. C.*

Gauge Helps Maintain Warper Angle of Incline

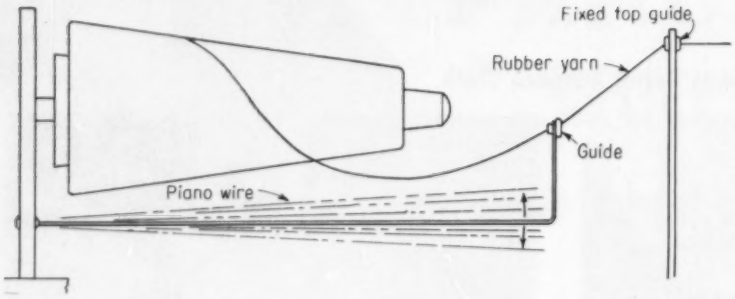
We used to have a lot of trouble in our warping department in producing the correct angle of incline for yarn as it was put on beams. This angle depends upon the rate of traverse, yarn number, and other factors. If the angle is too great or too small, the sections will be uneven and the beam will have loose or tight edges. To check the angle, we built a gauge as shown in the diagram.

When the first section of the beam is started, the angle of incline is set at what we judge to be best for the beam under construction. This angle is measured after about ⅜ in. of yarn has been wound on the drum. Measurement is made by matching the hinged arm of the gauge to the angle of yarn incline.

The machine is stopped while the angle is checked. If the arm of the gauge rests flush against the edge of the yarn, we assume that the warp is being wound correctly. The procedure is repeated at each section. (K-138) *Henry K. Eiger, Tel-Aviv, Israel*



Piano-Wire Guide Reduces Rubber-Yarn Drag



We knit rubber yarn and have our share of trouble because of the nature of rubber. One big problem used to be getting a constant rate of delivery from the cones. Uneven delivery caused all kinds of imperfections.

This delivery problem was finally solved by attaching a thread guide to a piece of piano wire several inches longer than the cone and turning up 3 ins. of the end with the thread guide on it. The wire is attached to the cone holder as shown, and another guide 3 or 4 ins. longer is set up in front of the first one.

The yarn is threaded through the two guides as shown. When the machine is started up, the ballooning action of the yarn causes the piano wire to dance up and down; and this motion helps shake the yarn loose from the cone and reduces drag.

Our feed is much evener now, and we have fewer defects in our knitted fabrics. (K-3944)

Stretch-Nylon Sock Makes Good Filter Cloth

We found a good use for off-quality stretch-nylon socks and cut down our expense for woven filter cloth by using our seconds as strainers for dye and chemical solutions.

The socks fit easily over most beakers and are easily cleaned by stretching them out under a water tap. The socks can be used many times before they have to be discarded.

Larger tubular-knitted fabrics made of stretch nylon are necessary for buckets that are used in mixing plant-scale batches of dyes. (K-207)

$25 KINK WINNER

The $25 prize for the best Kink in October was won by:

Jack Tanner, Dublin, Ga., for his Kink

"Bushing in Loom Giveway Repairs Worn-out Parts"

WATCH FOR NEXT MONTH'S WINNER

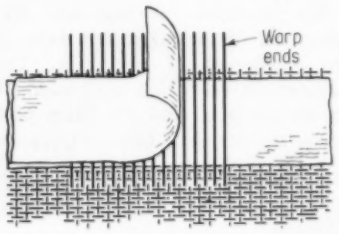
Mechanical Pencil Is Used To Make Threading Tool

Knitting, sewing, and other textile machines used to be hard to thread at our plant until we built a small tool that does the job easily and efficiently. Here's how to make it:

Insert a threading hook, welt hook, or latch needle into the lower half of a mechanical pencil just as you would insert lead into the pencil. Attach a clip to the pencil and put a cap on top.

When the hook is not in use, it may be drawn back into the pencil and clipped into a shirt pocket. If the tool is dropped, the hook is flush against the end of the pencil and will not break. (K-178) *C. Nathan Ownbey, American Enka Corp., Enka, N. C.*

Masking Tape Holds Ends At Start of New Warp



At our mill, we've found a quick way to tie a drawn warp in the loom.

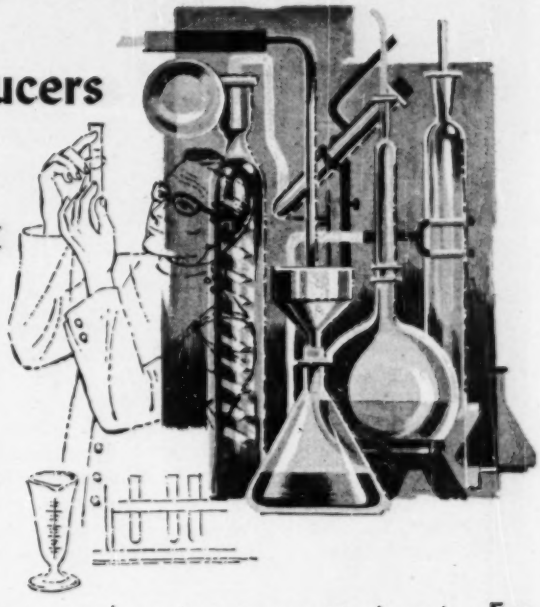
The old way was to tie the new warp ends to the old warp or to an apron in several hands of 3 to 3½ ins. wide.

The new way is to cut off the ends of the old-warp fabric even with the edge of the fabric. A piece of masking tape is stuck all the way across the width of this end of cloth with the adhesive side down.

The hands of new warp are untied and are brushed out straight so that they are parallel to each other. With the end of the old cloth at the loom breastbeam, the new warp ends are laid over the masking tape.

Then a second piece of masking tape is laid over the new warp ends and is stuck to the first piece of tape. (K-179) *R. W. Rothweiler, Dothan, Ala.*

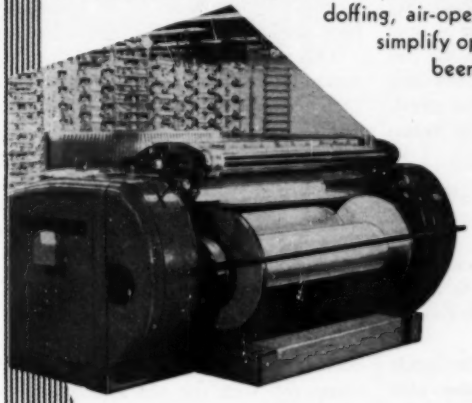
15 of the World's Leading Man Made Yarn Producers use COCKER Warping Equipment *Exclusively*



To be completely accurate: These mills have installed a total of 8 competitive warpers for comparative purposes . . . against a total of 205 Cocker Warpers.

Since 1950 Cocker has installed about three times as many warpers as the next leading make. Today most of the world's leading producers of man made fibers now use Cocker Warping Equipment Exclusively.

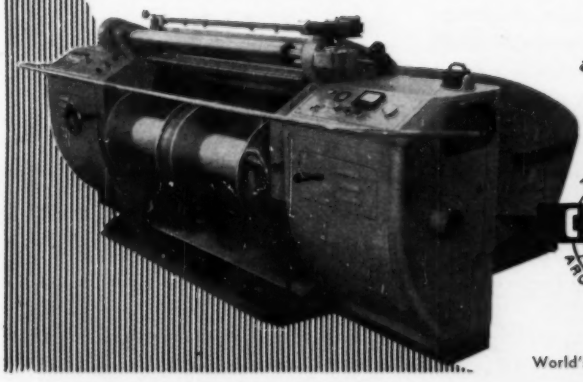
• **For Production.** Rugged construction and accurate controls permit maximum sustained speeds • **For Versatility.** Cocker Warpers are engineered with an eye to the future, with advanced features to meet the needs of tomorrow as well as today • **For Convenience.** Sensitive and accurate controls, indicators, air doffing, air-operated presser rolls, powerful brakes, and many other features greatly simplify operation • **For Economy.** For over 50 years Cocker equipment has been famous for its sound engineering, long service and low operating costs.



Whatever your warping requirements may be, there is a Cocker Machine which will do the job faster and better. Here are two examples:

The Cocker Model SD-49 Warper (left)

Designed especially for synthetics but will handle any type yarn. Produces unexcelled synthetic warps from finest deniers to heaviest tire cord yarns. Takes section beams with flanges up to 40" diameter. Produces warps of any desired density at speeds up to 1000 yds. per minute. Driven and braked from both ends.



The Cocker Multiple Beam Tricot Warper Model MB55-32 (below)

Will handle 2-21" beams, 1-42" beam, 1-50" or 1-55" Raschel Beam with simple changeover from one set-up to another. Individual controls are in full view and easy reach. Has all modern features and safety devices. Normal sustained speeds up to 600 yds. per minute.

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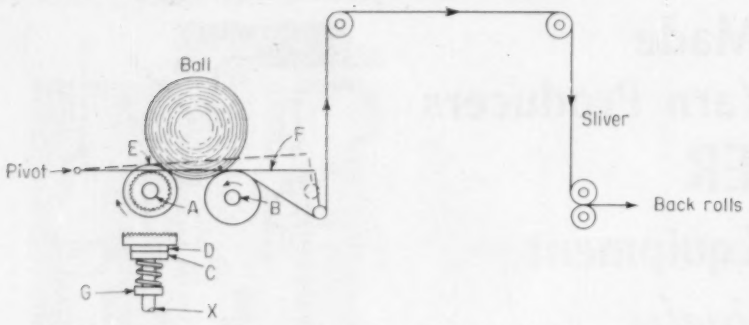
Clutch Makes It Easy To Unwind Drawing-Set Balls



The first gill box on our drawing set has a revolving-ball creel to unwind the balls and feed the sliver to the back rolls under the least possible tension. The conventional creels were satisfactory when the balls were built up with the same angle of lay.

But in blending tops with a different angle of lay, which is becoming more frequent all the time because of present trends in fiber mixing, the adjustment of the creel is a problem. The operator frequently has to start some of the balls by unwinding a length manually.

To eliminate this hand work, we modified our creels so that unwinding is entirely automatic. As shown in the sketch, shafts *A* and *B* are arranged so that each pair engages a ball. These rolls are normally loose on the shaft.

We made a simple clutch by putting a face clutch on shaft *X* so that section *C* of the clutch presses against the other half *D*, which is fixed to the creel roll. Part *D* has periphery teeth that engage projection *E* of feeler *F*.

Spring *G* produces just enough pressure to drive the roll and with it the ball. When the clutch is in driving position, the creel rolls run faster than the back rolls of the gill box.

Feeler *F* is operated by the tension on the sliver. When the sliver becomes tight, the feeler is lifted up and the friction of the clutch makes the roll revolve. Slack sliver stops the rotation of the roll.

This arrangement saves much time and labor, and we feel that it has paid for itself many times over. (K-124)
M. Primentas, Melbourne, Australia

Mark on Screwdriver Makes Adjustments Easy

Our fixers used to have trouble remembering exactly how many turns they made in adjusting screws on knitting machines. Frequently they would forget the count and have to start over.

We solved the problem by painting a mark on one side of the screwdriver blade a little way from the end of the blade. The mark comes into view with each full turn of the screw, and the turns are easy to count. When no mark can be seen, a half turn has been made.

This simple aid has saved our fixers much lost time and has resulted in better adjusted machines and better knitted products. (K-203)

Bunch Builder Reduces Broken Picks 95%

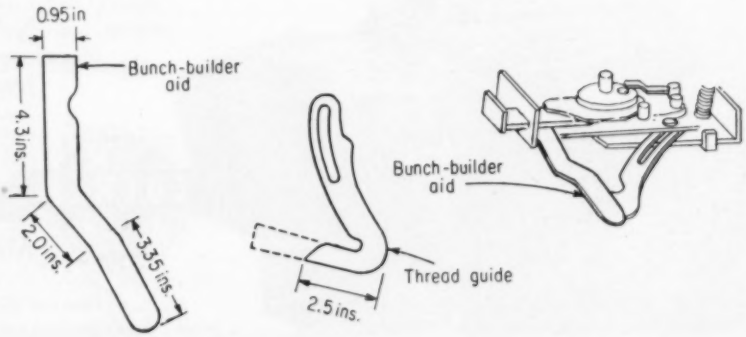
We have to wind two-ply 4s yarn on our Leesona quillers and produce a 5-yd. bunch of filling for our S-3 looms. We couldn't make a round bunch; so we made a flat bunch. But the flat bunch gave us trouble because the last few layers were placed behind or near the base of the quill. Sometimes one of the two ends would separate and break or become entangled in the last pick or picks of the bunch.

The shape of the bunch-building thread guide is responsible for carrying the filling to the back of the bunch where it is released with the traverse bar at the back position. This action caused the trouble.

To correct this condition, we shaped a piece of heddle bar and soldered it to the inside base of the case as shown in the sketch. The regular flat-bunch thread guide was shortened and shaped so that it would fit below the stationary guide in the closed position.

The arrangement keeps the guide from bringing the filling away with it when it is released at the finish of the bunch. This action is carried out by the forward movement of the porcelain thread guide in a normal way.

The improved bunch builder has reduced our broken picks 95% as compared with the old system. (K-195) *C. Haworth, Colonia, Uruguay*



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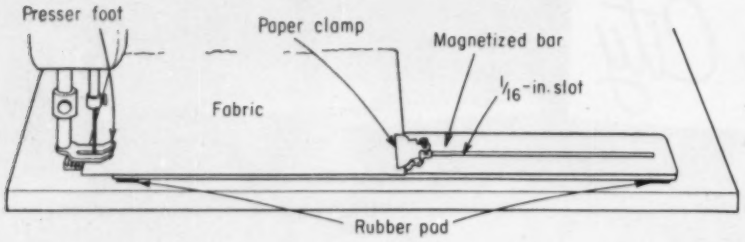
Sewing Guide Prevents Crooked Seams in Fabric



We used to have a lot of trouble teaching our new operators to sew a straight seam. Even experienced operators occasionally got seams out of line.

We overcame this trouble by constructing a sewing guide that makes it impossible to produce anything except a straight seam. The guide is made from a piece of magnetized steel, a paper clamp, and a nail.

The steel guide is 4 ft. long, 3 ins. wide, and ¼ in. thick and has a ⅛-in. slot down the center. It is assembled as shown in the sketch.

The fabric to be sewed is stretched between the paper clamp and the presser foot of the sewing machine. When the sewing starts, the presser foot pulls the fabric forward as the nail follows the groove. Tension is applied by the force of the magnetized bar against the nail. No springs are necessary.

When the paper clamp reaches the presser foot, it is removed from the cloth and pushed back into position for the next seam. (K-3627) *H. J. Haas, Martinsburg, W. Va.*

Mill Finds Many Uses for Discarded 12-in. Cans

We recently changed over from 12- to 16-in. card cans and were stuck with a large number of 12-in. cans that have little resale value in our area. The problem was what to do with these surplus cans.

The obvious answer was to use as many cans as possible for waste containers, which we did. We put cans in the spinning room labeled for underclearer waste, top clearer waste, roving waste, etc. In the weave room, we use the cans for bad bobbins and filling waste. Some are used just as trash cans. In every instance, the old cans are preferred to the heavier boxes formerly used for the same purpose.

But we still had 12-in. cans on hand.

Another use came to mind—why not make portable tool chests for fixers out of the remaining cans? The tool chests normally used are heavy, clumsy, and awkward to move around. So we made up a sample tool chest as follows:

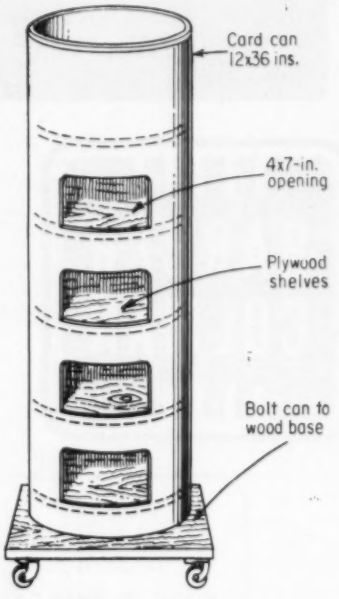
A can was first bolted onto a 14x14-in. dolly made of ¾-in. plywood and equipped with 2-in. ball-bearing casters.

Then the can was divided up into five 6-in. compartments with plywood shelves, as shown in the sketch, and 4x7-in. openings were cut into each compartment. An open compartment 8 ins. deep was left at the top for easy access to wrenches, hammers, and other often-used tools.

The other compartments are used to house other tools and all kinds of spare parts such as spindles, bolsters, springs, skewers, etc.

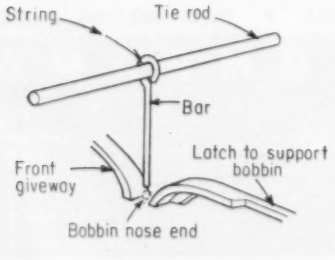
The narrow dimensions of the portable tool chest make it possible for the fixer to maneuver it into the narrowest alleys and into all kinds of awkward places.

We find that the fixer saves a lot of time by not having to walk to the end of the alley to pick up tools and spare parts carried in the conventional tool chest. The sample



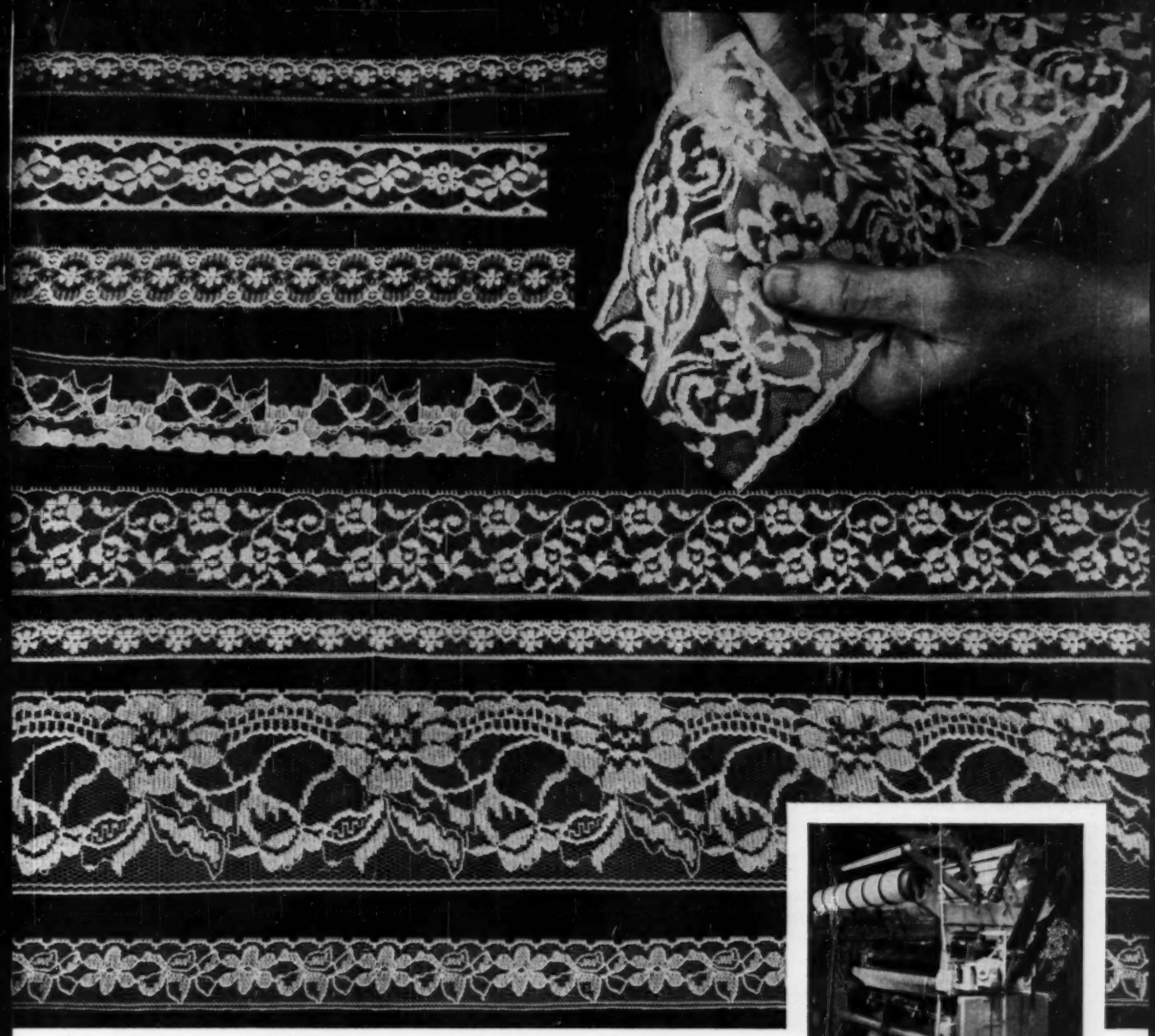
was so successful that we made one for each of our fixers. (K-192)

Guide Bar for Loom Magazine Keeps Transfer Arm Straight



On our W-3 looms, the transfer arm is often bent out of shape when a bobbin is released by the cradle onto the front giveway and latch to support the bobbin at transferring. The nose end of the bobbin is often not steady before the transfer arm strikes it.

We solved this problem by fastening a bar to the magazine lower tie rod directly over the bobbin. The lower tip of the bar just clears an empty bobbin when the bobbin is placed on the giveway and latch to support the bobbin. A short piece of string is tied to the eye of the bar and to the magazine frame to keep the bar from moving away from the frame. (K-186) *Fred Robinson, York, England*



There's no limit to the lace patterns with the NEW KIDDE 24 BAR RASCHEL KNITTER

Look at the lace in the picture. Every one of those intricate and varied patterns can be made on a single machine . . . Kidde's new 24 bar knitter. Look again at the quality of the lace . . . at the fine detail and the clear outlining of the pattern. That's quality lace turned out at moderate cost.

This new addition to Kidde's line of Raschel knitters is built to operate with 24 bars . . . but can be used with 14 or 18 for less intricate patterns. It turns the lace out fast, too . . . up to 300 courses per minute.

Like all Kidde machines, the new 24 bar knitter is simple, accessible and easy to work on. Equally important, it is ruggedly built to withstand round-the-clock, high speed operation. Write to Kidde for full information.

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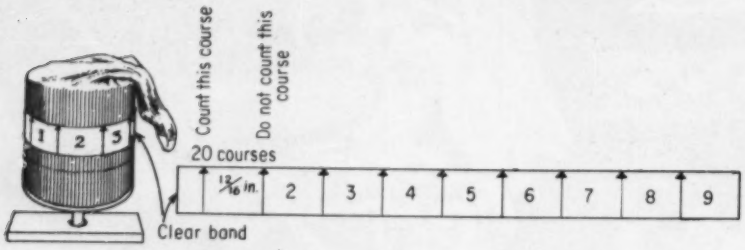
CIRCLE 113 ON READER SERVICE CARD

Plastic Bands Make It Easy To Count Sock Courses



We used to find it difficult to count the courses in socks because they vary in width and the fabric tends to stretch out of shape.

An easy way to count courses is to use a counting aid, which can be made as follows:

Mount a round wooden block 5½ ins. in diameter on a swivel attached to a wooden block. Then cut out three bands of clear flexible plastic and mark them in exact increments as illustrated. Spaces on the first band should be $1\frac{3}{16}$ in. long, on the second $\frac{7}{16}$ in., and on the third $\frac{5}{16}$ in. Each band corresponds to a standard-size course.

Stretch a sock evenly over the wooden cylinder and wrap a measuring band around it so that the first section exactly covers a given number of courses. If the first band doesn't cover the wales precisely, try the others until you get a fit.

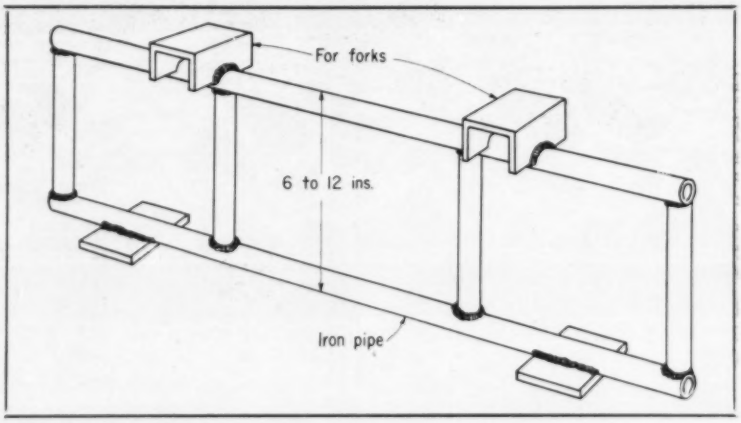
Count the courses in the first section and multiply by the number of increments in the band. A lot of time is saved. (K-3258) *H. J. Haas, Martinsburg, W. Va.*

Frame for Fork Lift Truck Frees Truck From Icy Places

When a fork lift truck is used out of doors, it often becomes stuck in ice, snow, or mud; and sometimes it will not pull on uneven surfaces. Then the truck has to be jacked up so that a board or other tractive surface can be placed under the wheels.

An easy but effective way to remove a fork lift truck from these conditions is to make the truck lift itself.

Weld a frame together from iron pipe as shown in the accompanying sketch. Raise the forks of the truck, and slip the top openings of the frame over the forks. Lower the forks until the wheels of the truck are raised off the ground enough for a tractive board to be slipped under the wheels.



Then when the forks are raised again, the truck can be driven away from the icy place.

This frame can also be used to jack up the truck wheels to repair tires or even remove the wheels. (K-3812) *W. H. Mullen, Quincy, Mass.*

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You can send in as many Kinks as you want to any month.

All Kinks are paid for on acceptance.

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Let us know if you don't want your name published.

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Chemstrand's Textured Nylon

Chemstrand last month announced Cumuloft, a textured-nylon continuous-filament yarn for carpets, made by a new Chemstrand-developed texturizing process.

The yarn has a modified cross section with a built-in crimp with rounded corners that gives the yarn more dimension in breadth and depth.

Cumuloft carpets will be introduced next month by Mohawk Carpet Mills and Alexander Smith.

New Polypropylenes

Industrial Rayon Corp. announced plans for semicommercial production of polypropylene staple fiber, tow, and continuous-filament yarns to be marketed under the tradename Prolene.

Prolene is light in weight and possesses high strength and outstanding resistance to abrasion. It is also reported to be unaffected by water and common chemicals.

Prolene staple and tow will be made in 2 to 15 den. per filament size, and continuous-filament yarns will be available in 210 den. and up.

New Orlon for Carpets

Du Pont announced last month a new staple carpet fiber called Orlon Type 37.

The new form of Orlon has a natural whiteness that gives superior clarity of color with excellent lightfastness properties, the company says. Carpets of Type 37 are durable, easily cleaned, and resistant to crushing and matting.

A quality-control program will be set up by Du Pont in cooperation with mills, and labels will be issued only for carpets meeting required Du Pont specifications.

Carpets containing Orlon Type 37 will be introduced next month at the International Home Furnishings Market in Chicago. C. H. Masland & Sons will show carpets initially in Type 37-and-wool blends. Alexander Smith is blending the new Orlon with modacrylics.

New Wash-and-Wear Program

Cluett, Peabody, & Co., Inc., Sanforized Div., is introducing a new wash-and-wear quality-control program.

The division has set up standards for five properties of a wash-and-wear fabric. They are: smoothness after washing as measured by the company's newly developed Smoothness Evaluator; crease resistance; shrinkage; tensile strength; and tear strength.

Fabrics that meet the standards and conform to the test requirements will be given a Sanforized-Plus trademark.

All fabric finishers now licensed to use the Sanforized trademark will be offered the use of the new testing instrument and the new trademark.

The program is being initially undertaken in plants finishing medium- to heavy-weight fabrics. It will be extended soon to plants finishing lighter-weight fabrics.

New Colors in Chromspun

Eastman Chemical Products, Inc., has added three new fashion shades to its Chromspun acetate line.

They are: Ivy Green, a bright olive tone; Fresh Violet 329, a brilliant shade; and Wood Rose 331, a subtle misty color. The new colors are available in a full range of yarn types and sizes.

New Decorative Yarn

A new decorative yarn, called Woodtone Mylar, has been developed by the Metlon Corp. The yarn simulates the bamboo strips used in wood weaves. It is made only in the color of blond wood.

One of its uses is in fabrics that simulate wood weaves. It is also being used for textured drapery fabrics and in sheer curtains. Its fashion uses are in shoe cloths, millinery, and braids.

Interest is primarily in ⅛- and ¼-in. widths.

Glenoit's New Knitted Pile

Glenoit Mills has developed a 75-25 acetate-wool knitted pile styled to suggest a shearling texture. It has been designed for both shells and trim on men's and boy's outerwear.

It is now available in ½-in. and ¾-in. pile and in shades of beige, maize, and gray.

The pile is backed with a triacetate-acetate combination. The fabric is washable.

Latex-Backed Carpet

Candycote is a new floor covering being offered by Crown Rubber Co. It combines a pinstripe or broadstripe fabric with a foam-rubber backing of Pliolite Latex 5352 ¼ in. thick.

The cotton-fabric patterns are available in 9x12- and 9x15-ft. sizes with either serged or unserged edges. Candycote is also available in rolls of 27-in. or 9-ft. widths.

Crown Rubber offers a three-year guarantee on the carpeting and a lifetime guarantee when it is used as a carpet underlay.

Pepperell's New Designs

Pepperell's Mfg. Co. introduced two new designs in its Lady Pepperell Regency blanket collection for holiday selling. Both blankets are blends of 94% rayon and 6% Acrilan.

Festoon is a scroll design with reversible colors. On one side, the scroll appears in white on larkspur, cherry, marigold, emerald, or mocha. On the reverse side, the scroll is in color on a white field.

Flower Garden is a hand-screened Provincial print in multipastel colors

on a white ground. It is made by the company's Marvelok Weave.

Both blankets have nylon binding and come in 72x90 sizes. They retail at $10.95.

Rovana Used in Fences

Rovana is now being used in woven-fabric snow fences.

Test fences installed last year near Saginaw, Mich., were constructed of two bands of 12-in.-wide fabric placed 12 ins. apart. The bands were wire-tied tightly to conventional stakes.

Additional installations of fences made from fabrics of Rovana for sand barriers and for erosion control along river banks are now being tested by Dow.

Ansonia's New Powernet

Ansonia Mills announced that it will manufacture powernet for the foundation-garment trade for spring 1960. The fabric will be sold under the Fabulastic trademark.

Greeff's New Collection

Greeff Fabrics, Inc., will introduce next month a new collection of decorative fabrics called American Legacy.

Inspiration for the new collection was taken from antique textiles and other Americana in the Henry Ford Museum, Dearborn, Mich.

New Truck-Tarpaulin Fabric

U. S. Rubber Co. has developed a new truck-tarpaulin material called Fiberthin 71514T-Truck.

The new material, a neoprene-coated nylon, is said to offer 300% more abrasion resistance than other current neoprene materials and greatly improved bond of the coating to the nylon. The company rates the adhesion at 40 lbs. per sq. in.

The new fabric is similar to other Fiberthin tarp materials but has a smoother and harder surface.

New Name for Ondule

Du Pont is using the trademark Ondelette for its random-slubbed rayon yarn formerly called Ondulé.

Yarn properties and fiber characteristics remain unchanged.

Second Foreign Bondyne Licensee

Bondyne Associates, Inc., has licensed Bruck Mills (Australia) Ltd. to produce Bondyne Dynel-blended fabrics in Australia.

Bruck, the second licensee abroad in the Bondyne program, will produce Bondyne fabrics for women's, men's, and children's wear.

Steven's New Wool-Orlons

J. P. Stevens & Co., Inc., last month introduced a new group of 65-85 wool-Orlon fabrics under the label Andover. They are in 9- and 11-oz. weights.

The fabrics are suitable for suits, sports coats, and slacks.

The suiting fabrics are in a variety of patterns, including plaids, checks, and stripes. Sports coatings are in all the high shades and in a variety of patterns.

New Rubber-Backed Carpet

La France Carpets, Inc., has developed and is marketing a new carpet called Amerilux, a closely woven carpet that is bonded to a cured sponge-rubber base.

Two groups of carpets are being manufactured. One group is made of 100% Avicron. The other group is made of a combination of Du Pont's carpet nylon and Celaire acetate carpet fiber. The new carpet was developed in conjunction with U. S. Rubber Co., makers of the rubber base.

Amerilux is mildewproof, lintproof, and mothproof. It is available in a wide range of patterns, colors, and textures and may be dyed to color specifications.

New Drapery Fabrics

Walter Fabrics has introduced a new drapery-fabric collection called "The Shansi Collection."

Crimped Avisco rayon staple in 8-den. weight is used in the filling. Avisco acetate is used in the warp. The fabric simulates one of raw silk.

Seven patterns are shown, each in four to six colors. The fabrics are 48 ins. wide, and the print repeats range from 36 to 38 ins. Retail prices are in the medium range.

Fine-Denier Metallic Yarn

Metal Film Co. is now marketing a new fine-denier Chromeflex NL metallic Mylar yarn.

It will not tarnish and can be woven with fine-denier silk and man-made-fiber yarns.

New Nylon Tricot

Burlington Tricot Fabrics Co. introduced last month a new nylon tricot called Sparkletrique, a transparent sheer.

New Laminated Flannels

Pepperell Mfg. Co's. Work Fabrics Div. is now offering three laminated canton flannels to work-glove manufacturers.

Steven's New Knit

J. P. Stevens & Co., Inc., introduced last month a new knitted fabric of Coloray acetate and cotton called Stevecora.

It is available in heather tones.

Bigelow's Nylon Carpet

Bigelow Rugs & Carpets is marketing Dorleigh Weldweve, a new loop-pile tweed carpet of imported 100% solution-dyed nylon staple.

A new ply technique is used in the production of the new carpet that improves texture and surface beauty.

Colors available are sandalwood, black and white, green, gold, and beige.

Dorleigh Weldweve is being offered as it becomes available. The retail price is about $7.50 a sq. yd.

IT'S COLOR-IFIC! COLORSPUN* RAYON and ACETATE

. . . in colors that rival the brilliance of the plumage of nature's most colorful creations. Like the bird of paradise, Colorspun fibers are born with the color sealed in for life—color is added to the solution before spinning the fiber. Resists fading due to water, sun, perspiration, fumes, etc.! That's why Colorspun fibers are used for fashions, homes, automobiles, industry!

COLORSPUN . . . RAYON STAPLE

1. BRIDAL ROSE
2. PALE PINK
3. SILVER GREY
4. SEA FOAM
5. CASCADE
6. SPUN GOLD
7. SANDALWOOD
8. BISQUE
9. CHAMPAGNE
10. SPICE BROWN
11. ROSEWOOD

COLORSPUN . . . ACETATE YARNS

12. FIREBIRD RED
13. DUSTY ROSE
14. AQUATONE
15. SPICE BROWN
16. NUTMEG
17. BISCUIT
18. DARK GREEN
19. AVOCADO
20. COPPER
21. BRONZE
22. GOLD
23. BLACK
24. LIGHT GREY
25. ROYAL BLUE

COLORSPUN . . . RAYON YARNS

26. NAVY
27. ROYAL BLUE
28. ULTRAMARINE
29. ORIENTAL BLUE
30. APPLE RED
31. ROSE
32. PALE PINK
33. TURQUOISE
34. IRISH GREEN
35. KELLY GREEN
36. SHERWOOD
37. TARRAGON
38. TRITON
39. SURF GREEN
40. GOLD
41. PALE LEMON
42. SPICE BROWN
43. HENNA
44. NUTMEG
45. BISQUE
46. BLACK
47. SLATE
48. NICKEL
49. CHAMPAGNE

COLORSPUN . . . SMOOTH RAYON CARPET STAPLE

50. CHESTNUT
51. BRAZIL
52. SANDALWOOD
53. SUN TAN
54. BEIGE
55. BLACK
56. DOVE GREY
57. SUN GOLD
58. TURQUOISE
59. JADE GREEN

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RAYON and ACETATE ARE EVERYWHERE

. . . in your clothing, in your home, in your car, in your electrical appliances and in the factories that supply your needs. In demand by manufacturers of all kinds, these forever-colorful fibers have hundreds of end uses. If you are not already using Colorspun, we would be happy to supply you with additional information.

COLORSPUN ACETATE

. . . used mainly in men's, women's and children's fashions:

- carcoat-linings
- draperies
- suit-linings
- coat-linings
- dress goods
- bathing suit fabrics
- men's socks
- umbrellas
- women's tricot lingerie

COLORSPUN FILAMENT RAYON

. . . enjoys much popularity for men's and women's apparel:

- linings
- shirtings
- dress goods
- decorative worsted yarns
- manufacturers' labels

. . . has many uses in home furnishings:

- draperies
- curtains
- slipcovers
- upholstery
- bedspreads
- throws
- tablecloths
- gift-wrap ribbons

. . . is a major item in automobile interiors:

- upholstery
- head liners
- upholstery trimmings

COLORSPUN STAPLE RAYON

. . . used by top makers of men's, women's and children's ready-to-wear:

- interlinings
- dress goods
- suit goods
- men's hosiery
- men's t-shirts
- and airplane luggage

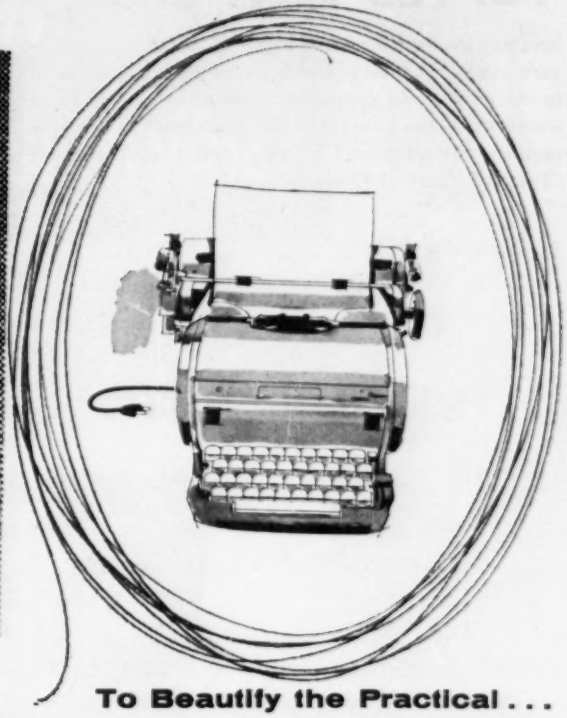
. . . is of major importance to the home fashion industry:

- carpeting
- draperies
- place mats
- upholstery
- bedspreads
- tablecloths

. . . is being used by the top automobile makers:

- upholstery
- window-channel fabrics
- convertible tops
- carpeting

Is **SERVICEABILITY**, Alone, Enough for a Polyester Fiber?



To Beautify the Practical . . .

Vycron Introduces the **FIRST MAJOR BREAK-THRU** in Polyester Consumer Appeal!

Even the most utilitarian items, like typewriters, must have eye-appeal to attract today's consumers. ● In styled items like fabrics, beauty is even more important. Yet... according to our recent survey... 83% of consumers find wash-and-wear fabrics unsatisfactory from the aesthetic viewpoint. ● Now Vycron changes all that with heightened color beauty, finer hand and texture, unparalleled resistance to pilling, and greater pliancy and drapeability. Not only in wash-and-wear fabrics, but also in crease-resistant Vycron-wool blends, and decorative fabrics for the home! Nothing less will do for 1960!

● Fabrics labelled "Vycron" are Certified for quality and wash-and-wear performance by United States Testing Company.

Vycron National Advertising in 1960 will be carried to America's Millions in

Esquire	Glamour
Holiday	Harper's Bazaar
New York Times Magazine	Mademoiselle
Playboy	New Yorker
Sports Illustrated	Vogue
Life	

*Vycron**

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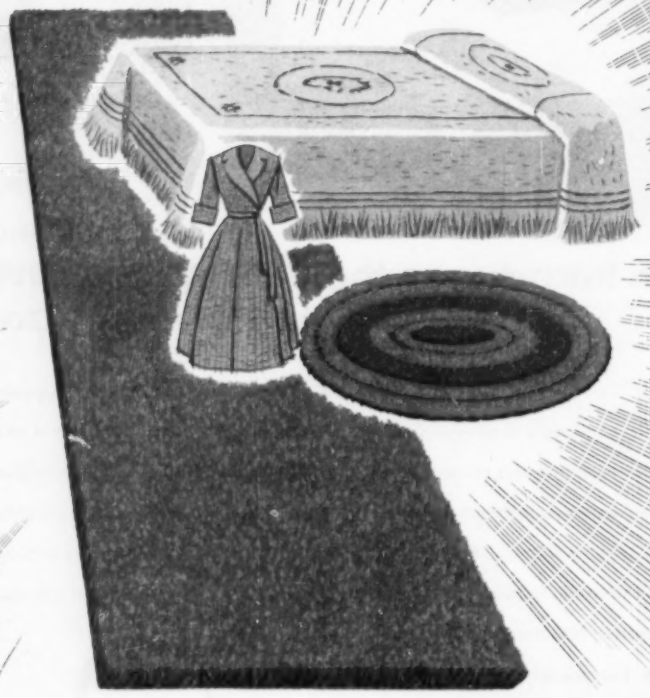
*Reg. applied for. Beaunit Fibers Division makes the fiber, not the fabric or garment.

TUFTED TEXTILES

. . . have contributed immeasurably to the economic surge of the South! In 1956 alone, tufted carpeting, and other products worth over $267 million were shipped by Southeastern manufacturers to markets here and abroad. *To produce over 90% of the nation's tufted products,* these manufacturers used over 251 million pounds of yarn and fabric, most of which was produced in the South. • The growth of the tufted textile industry has added impetus to the growth and development of the area. And the Trust Company of Georgia, with a full and complete FACTORING DEPARTMENT, has been pleased to participate in this growth as FACTOR for numerous textile producers. If your operation requires this specialized service, contact us. The Trust Company will gladly work with you and your bank in Dixie's "Forward March of Progress."



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THE NYLON FIBER BY ALLIED CHEMICAL

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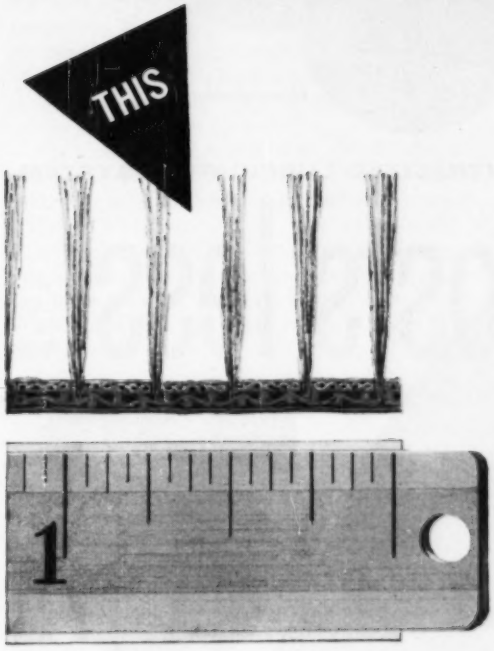

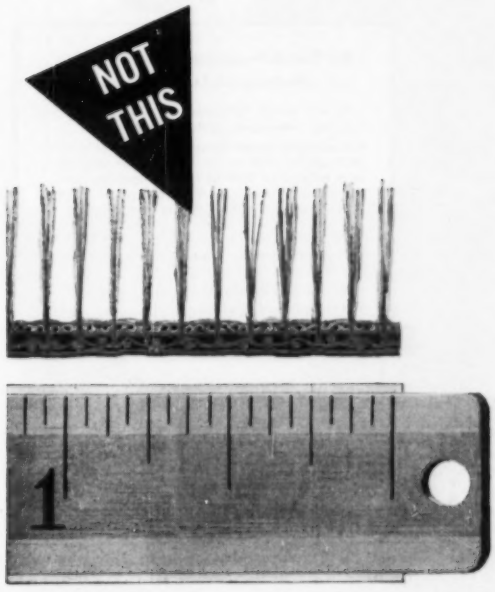

HIGH PILE HEIGHT ...LOW PILE WEIGHT

When you switch to the new textured nylon filament yarns, remember this—

FACT: Textured Filament Yarns And Spun Yarns Are Not The Same.

Therefore, in styling, certain simple adaptations should be made to get the most from these marvelous new fibers.

EXAMPLE: Take the matter of pile height, for instance. If you want to decrease pile weight, do not lower the pile height. Use either a wider gauge, or reduce the stitches per inch.

RESULT: A more luxurious carpet because this procedure gives the textured filament yarn room to develop and subsequently increase its ability to cover.

Easy adjustments like this pay off in excellent results with Textured Caprolan. Our technical service, end-use development and fiber application laboratory staffs are ready to help you at any time. Call us.

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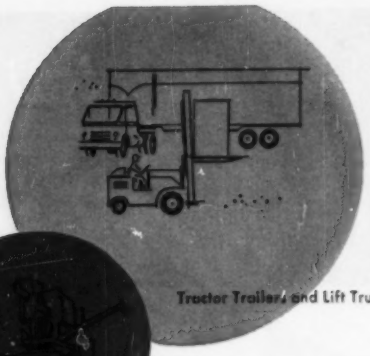


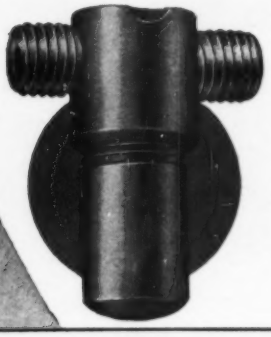
Tractor Trailers and Lift Trucks

Farm Implements

ALEMITE ACCUMITE® CENTRALIZED LUBRICATION SYSTEM

costs less...

Machine Tools



to make modern lubrication economical for all plants!

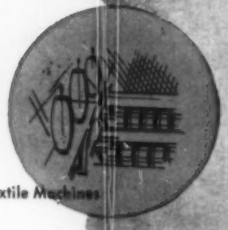
Now any plant can economically equip all sizes of machines and vehicles with a modern centralized lubrication system! The small size and simple installation of Alemite's Accumite System overcomes cost limitations. Complete with fully automatic pump, metering valves and controls, Accumite is ideal for many applications where centralized lubrication has previously been considered too costly or impractical. Yet Accumite offers all the advantages and quality of higher-priced systems.

Typical applications are: packaging, canning, labeling and textile machines . . . machine tools . . . tractor trailers, lift trucks and farm implements. Accumite lubricates either large or small stationary and mobile machinery.

All The Advantages Of "Built-In" Measured Lubrication!

- Meters exact amounts of lubricants to all bearings whenever system is operated.
- Accurately meters these shots of oil or grease: .003 cu. in., .006 cu. in., .009 cu. in. Available with adjustable fittings for applications requiring measured metering from .003 cu. in. to zero.
- Eliminates shutdown time for lubrication.
- Seals bearings against dirt, grit and water.
- Prevents bearing troubles due to neglect or use of wrong lubricants.
- Services all bearings in one operation.
- Avoids work spoilage and bearing repairs due to overlubrication.

Write For Alemite Accumite Catalog!



Textile Machines

Symbol of SW Excellence

ALEMITE DIVISION
STEWART-WARNER CORPORATION
1850 Diversey Parkway, Chicago 14, Illinois

American-System Spinning Frame

An American-system spinning frame called Piedmont KW that increases production 20 to 30% over older-type frames has been announced by Whitin Machine Works, Whitinsville, Mass. The machine, a worsted adaptation of the company's Piedmont cotton-spinning frame, features high speeds and large packages. Fibers from 1½ to 8¾ ins. long can be spun.

The frame is equipped with the Whitin long-draft two-apron system and has a new top arm and weighting arrangement with internal precalibrated springs.

The KW is only 27 ins. wide and features streamlined design, individual side-shaft spindle drive, straight-line spinning, and two balloon-control rings. All gearing is enclosed in the head end, and the machine has a built-in system for waste removal and for dispersing motor heat.

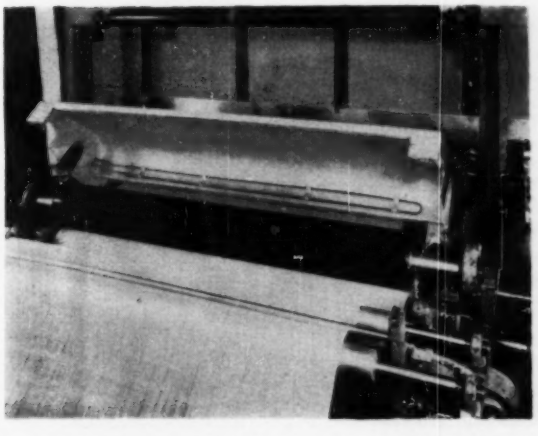
Instantaneous control of ratch or spread between the middle and back roll is available. Maximum ratch is 9½ ins.

Normal gauges are 4 to 4½ ins.; ring sizes can be supplied from 1½ to 3½ ins.; and traverses up to 11 ins. can be used. **(Circle T-1 on Reader-Service Card)**

Synthetic Resin Latex

A synthetic resin latex that is designed for upholstery backings, sizings, adhesives, textile printing, rugs, and carpet backings has been developed by the Chemical Division of Goodyear Tire & Rubber Co., Akron, Ohio.

Pliolite Latex 140, as it is called, is a styrene-butadiene copolymer that can be cured without adding a catalyst and is nonstaining. Tough flexible films with low odor and excellent clarity and adhesion are formed by the resin at room temperature. **(Circle T-2 on Reader-Service Card)**

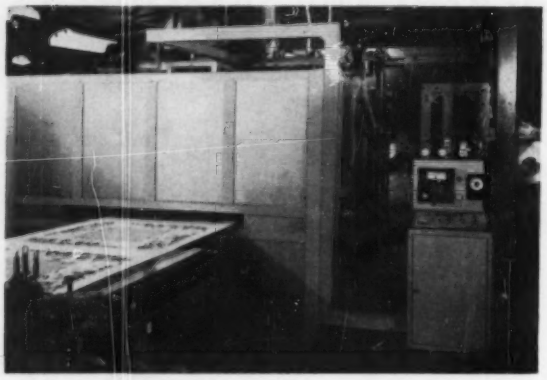


Slasher-Roll Cover

A slasher-roll cover, Sealskin, that eliminates the common problems of blistering, cracking, crazing, and swelling has been introduced by Stowe-Woodward, Inc., 181 Oak St., Newton Upper Falls 64, Mass.

The roll cover is designed to provide maximum operation and to resist all types of sizes. It is used interchangeably in the front and back roll positions. Because of its uniform density, the roll affords consistent size pickup for better-slashed warps.

The soft surface of the cover protects warp ends from breakage; and at the same time, it is wear resistant. It outlasts older covers made by the manufacturer by 100%. In addition, there's 25% longer service life between surface buffing. **(Circle T-3 on Reader-Service Card)**



Drying-Curing Unit

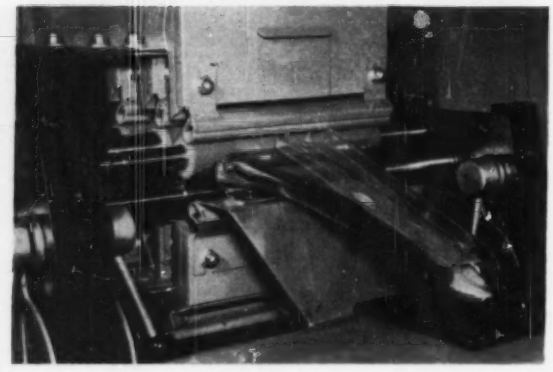
A gas-fired drying and curing machine for screen-printed fabrics has been marketed by Adams-Zeller Corp., Glenside, Pa.

The unit carries the fabric on Teflon-coated rolls that minimize heat transfer while the goods are stopped in the normal cycle of the screen-printing machine.

The drying compartment holds 10 yds. of goods and the curing section holds 44 yds. of goods.

High-velocity heated air is used in the drying area of the unit; air for the curing area is distributed at lower velocity.

Production of fabrics such as 80-in. draperies is about 1,000 yds. per hr. **(Circle T-4 on Reader-Service Card)**



Improved Drawing Frame

The Versa-Matic drawing frame is now available with Pneumafil suction cleaning, according to a recent annonucement from Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

The vacuum system is of an improved design that does not add appreciably to the over-all height of the drawing frame. Top rolls are readily accessible, and each clearer unit can be quickly removed from within the clearer cover.

Special baffles divert undesirable air blast from underneath the frame, and there is no "stealing" of spinnable fibers caused by excess vacuum in the drafting zone. **(Circle T-5 on Reader-Service Card)**

Circular Knitting Machine

A circular knitting machine for producing carpets for autos and other commercial uses has been announced by Scott & Williams, Inc., Brinton Fabrics Machine Div., Laconia, N. H.

The machine also produces a deep-pile fabric for auto upholstery, which is much like the fabric construction of present scatter rugs and simulated furs.

This machine, Model LLP (locked loop pile), is being sold on a seven-cut 22-in.-dia. basis with provisions for 10 or 20 feeds. Production is 10 yds. per feed per 8-hr day. Other machine cuts and diameters will be available later.

The machine produces a wide range of fabrics from both natural and man-made-fiber yarns. The deep-pile constructions can be piece dyed. **(Circle T-6 on Reader-Service Card)**

Bronze Valves

Two lines of bronze valves have been introduced by Crane Co., 836 S. Michigan Ave., Chicago 5, Ill. The valves are (1) No. 229C, a 200-lb. globe valve, and (2) No. 239C, a 200-lb. check valve. These valves replace the former Crane 212C bronze globes and 218C bronze check valves.

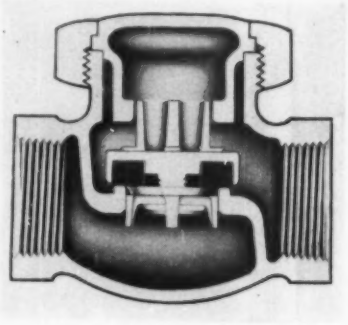
The two new valves have integral body seats with a semicrown face instead of the screwed-in seats in the valves they replace.

The disk holder on the No. 229C globe valve is the slip-on type. No threaded disk-stem ring is used. Therefore repair is fast by either insertion of a new composition disk or replacing the disk holder and disk as a complete unit.

The valves are regularly furnished with No. 4 Cranite disks for high-pressure steam up to 450° F. This disk is laminated and consists of a synthetic-material base with spirally wound long-fiber asbestos and other ingredients. They provide a hard disk for high temperatures, yet they seat with a minimum of effort.

For cold water, air, gas, oil, or gasoline, the valves are furnished with a No. 6 disk, which is made of a specially formulated composition of a synthetic-material base. This disk is soft enough to make a tight seat on air or gas, yet it is resistant enough to withstand hot water and the wear and tear of repeated operation.

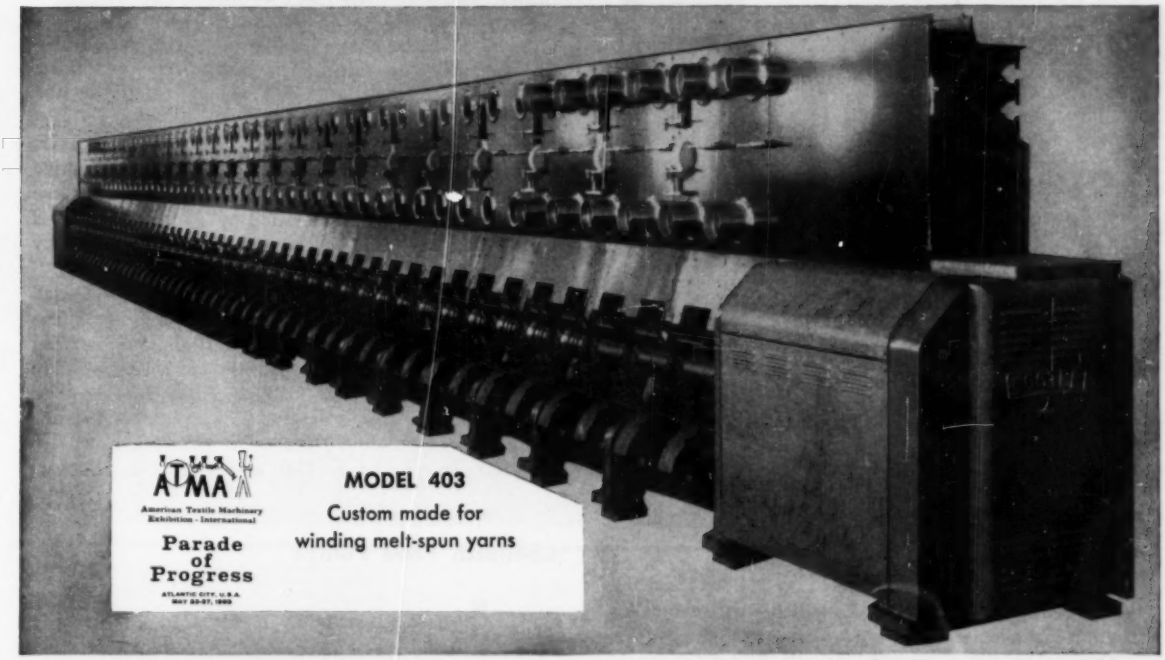
(Circle T-7 on Reader-Service Card)

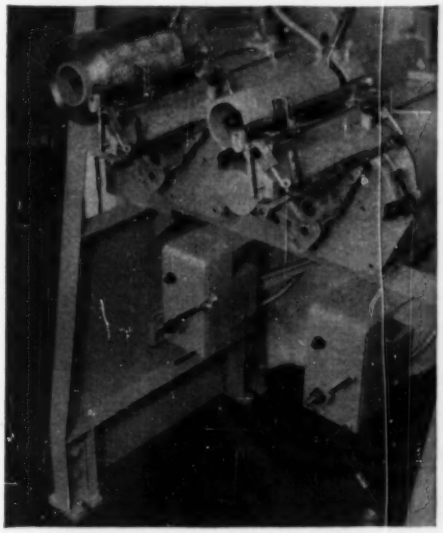


FOSTER CUSTOM MADE EQUIPMENT

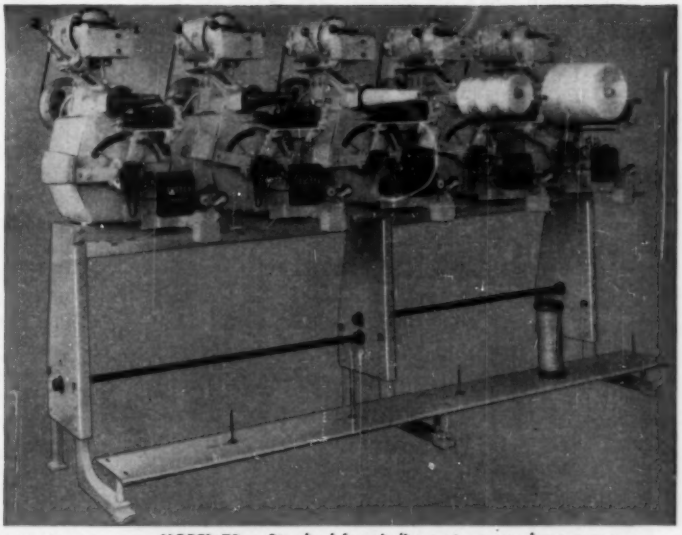
For Takeup Winding of Man-Made Fibres

613-B





TENSIOMATIC — Adaptation for winding wetspun or dry-spun yarns.



MODEL 78 — Standard for winding wet-spun or dry-spun yarns.

We have had years of experience in designing and manufacturing custom made equipment for the takeup winding of man-made fibres — melt spun, wet-spun and dry-spun. Our customers in this field include some of the biggest producers, both in this country and abroad.

Whether you require a machine that is custom made throughout, or an adaptation of one of our standard models, we will be glad to work with your engineers in the strictest confidence.

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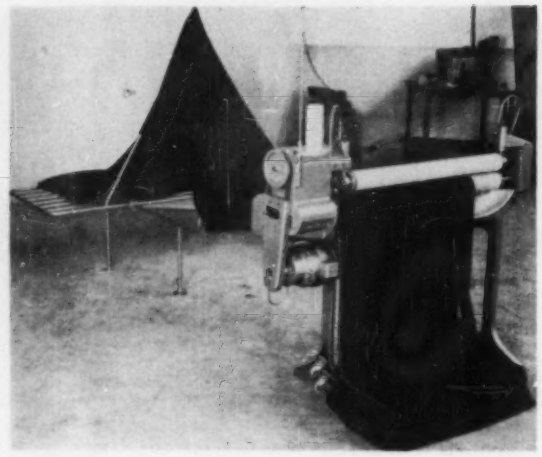
Southern Office—Johnston Bldg., Charlotte, N. C. *Canadian Representative*—Ross Whitehead & Company Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont. *European Representative*—Muschamp Textile Machinery (Sales) Limited, Eider Works, Wellington Road, Ashton under Lyne, Lancashire, England.

Overcasting Sewing Machine

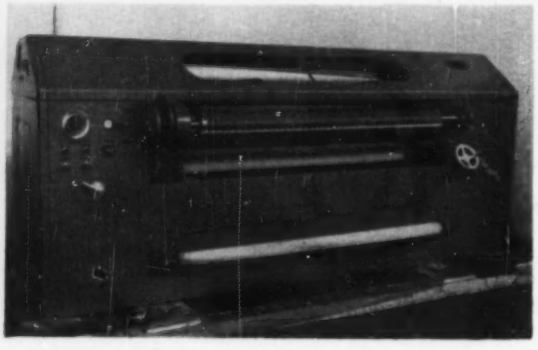


Goods that must be folded and stitched prior to dyeing or milling operations can be sewed quickly on the Model H2 overcaster sold by Tessiltecnica, 40 Via Bolognese, Florence, Italy.

The stitch can be varied from ¼ to 1⅛ ins., and the machine will sew at a rate of 528 stitches per minute for the 1⅛-in. spacing.

Open-width goods are automatically folded for stitching by a horn supplied with the machine. Foot pedals control the three principal motions of the machine. **(Circle T-8 on Reader-Service Card)**

Finishing Machine



An electrically heated ironing machine for finishing woolen or man-made-fiber fabrics has been announced by Frank W. Egan & Co., S. Adamsville Rd., Somerville, N. J.

The ironing roll is made of aluminum and contains heating elements that can be accurately controlled over a range of 200 to 500° F.

The machine produces a soft and silk-like surface on flat as well as pile fabrics. Production is 2 to 14 yds. per min. **(Circle T-9 on Reader-Service Card)**

Compact-Package V-Drives

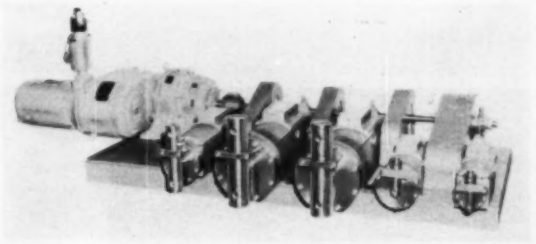
With compact packages made possible by high-strength belts and sheaves, Ultra-V drives, made by T. B. Wood's Sons Co., Chambersburg, Pa., are capable of handling up to three times the horsepower of the company's conventional V-belt drives occupying the same space.

With Ultra-V, the number of belt cross sections is reduced from five to three. The entire range of drive requirements from 1 to 1,500 hp. is covered with these cross sections: 3V is ⅜ in. wide by $\frac{5}{16}$ in. deep; 5V is ⅝ in. wide by $\frac{13}{32}$ in. deep; and 8V is 1 in. wide by ⅞ in. deep.

These deep narrow V-belts have greater side-wall area, and their arched tops confine the tensile members to free the side walls for compression and gripping power. The arched tops also hold the tension members in alignment and equalize the load carried by each member.

These smaller drives reduce shaft overhang, increase bearing life, cut maintenance costs, and simplify inventory and storage. **(Circle T-10 on Reader-Service Card)**

Chemical Feed Pumps



Corrosive materials of all kinds can be proportioned to treating solutions by feed pumps marketed by Lapp Insulator Co., Process Equipment Div., LeRoy, N. Y.

The operating principle of the pumps is a diaphragm that is caused to move as a piston forces oil against the diaphragm. Corrosive materials are isolated from the moving parts of the pump by the diaphragm. **(Circle T-11 on Reader-Service Card)**

Self-Contained Humidifier

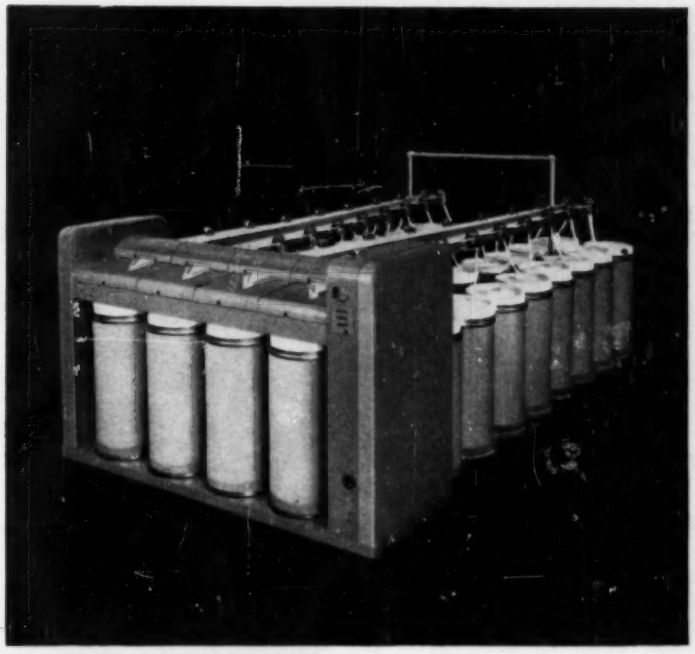
A self-contained motor-driven humidifier featuring four-way distribution of humidity vapor has been announced by Standard Engineering Works, Pawtucket, R. I. Other features of the humidifier are: it is easy to install, there's no water waste, it can be used in small rooms with low ceilings, and in multiple units it's also suitable for large areas.

The humidifier has a powerful vertically operated motor to develop centrifugal force to atomize water. Atomizing action is simple with only one moving part.

Water is fed to the basin of the humidifier with a float tank, which maintains constant water level. A cone and disk are attached to the motor shaft. The cone sits in the water; and when the motor is started, water travels up the cone outwardly under the disk and strikes the grid vanes with great force. This action breaks up the water so that it comes out of the humidifier in a fog-like mist.

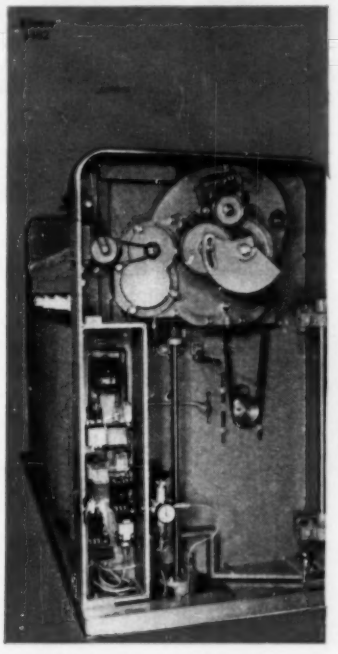
(Circle T-12 on Reader-Service Card)

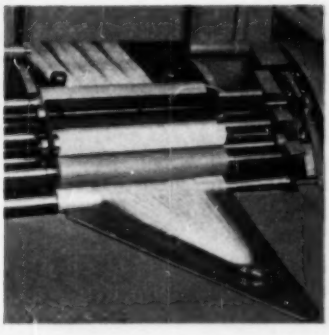
Rieter



DO

An entirely new conception in high speed drawing with cans up to 18" x 42" and speeds up to 600 ft. per minute.





J. J. RIETER & CO. LIMITED
WINTERTHUR, SWITZERLAND

Rieter's new high speed drawing frame is truly a new conception in design, permitting increased production and quality slivers at drastically reduced production costs. The term "New Conception" incorporates numerous basic innovations which give this model a definite superiority over all previous types of drawing frames. Some of the points which deserve particular attention are:

- Positively driven feed rolls (connected with electric stop motion) eliminating false drafts;
- New polar drafting arrangement with central roll adjustment;
- Axial air suction system combined with self-cleaning clearer device;
- New air suction principle at condensor;
- Pneumatic top roll pressure;
- Spiral shaped tube gear;
- Cans up to 18" x 42";
- Anti-friction bearings at all important points;
- Elimination of oiling by incorporating all high speed gears and important bearing points in a central oil bath.

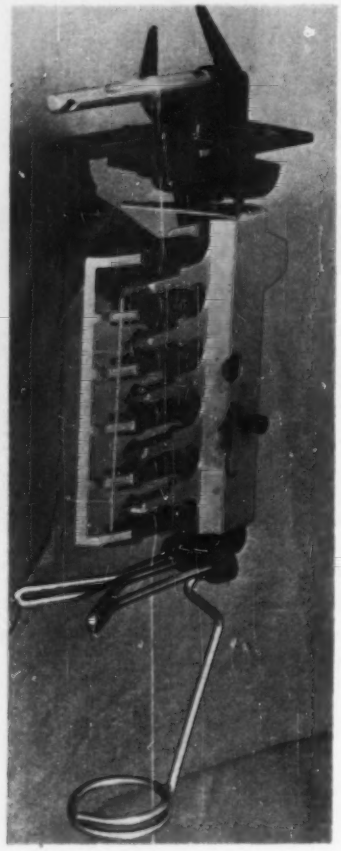
Recommended speeds for combed or carded materials lie between 80 to 180 meters/minute (264 to 590 feet/minute) depending upon the condition of the material itself, and not upon a mechanical limitation of the machine.

Representative for the USA and Canada:
AMERICAN RIETER COMPANY, INC., WEST CALDWELL, NEW JERSEY

B. C. Plowden Co., Griffin, Ga.
Fawcett & Co., Ltd., Toronto, Can.
Service Office: Greenville, S. C.

CIRCLE 129 ON READER SERVICE CARD

Cone-Winder Tension Gate



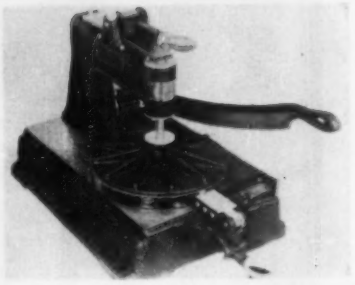
A tension gate equipped with Heanium contact fingers for cone winders has been announced by Heany Industrial Ceramic Corp., New Haven 3, Conn.

The new gate has a total of only 11 contact fingers, whereas the conventional metal-fingered gate has 19 fingers. The fewer number of fingers permits the yarn to generate angles from one contact finger to the next, which gives the gate a compensating ability as well as a snubbing action to compensate for uneven conditions from the supply package.

A concave face design on the contact fingers gives much better lateral control of the yarn than the conventional flat face, especially toward the tip end of the cone or tube.

Advantages include better-quality yarn, better-package formation, better over-all controlled tension let-off, and constant multiplication factor. **(Circle T-13 on Reader-Service Card)**

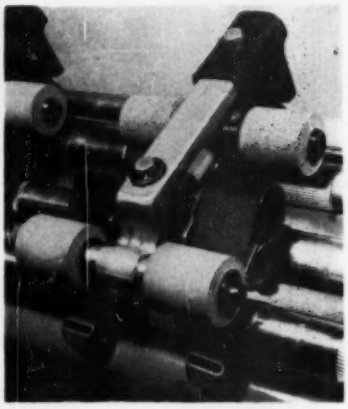
Sample Cutter



Weight per square foot of paper, textiles, or plastics can be determined easily from samples produced by a machine introduced by Thwing-Albert Instrument Co., Penn St. & Pulaski Ave., Philadelphia 44, Pa.

The samples are cut exactly 12 ins. on each side, and all corners are square. A cam motion provides power to cut even heavy paperboard. **(Circle T-14 on Reader-Service Card)**

Drafting Change-Over



An improved Cleanguide drafting change-over that is completely antifriction and can be applied either to Roth or Casablancas spinning for use on cotton or short-staple man-made fibers has been announced by Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

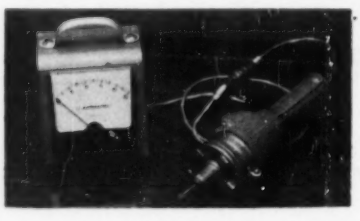
The change-over requires no oiling; the ball-bearing front top roll is greased every 2 to 2½ years. The double-apron support unit is a part of the knurled middle-line top roll and is fitted into position within the bottom center-supported saddle assembly. No contact is made with the middle bottom steel roll, which permits all of the top center units to be antifriction.

The apron nose-bar assembly, called Vari-Tensor, has several millimeter openings that can be changed at the nip of the aprons without removing the assembly. This arrangement eliminates the need for stocking additional parts and gives better control over the fibers. Yarn breaking strength is increased, and end breakage is reduced up to 50%.

In connection with this development, Saco-Lowell Shops announced acquisition of rights to sell and service spinning, roving, and drafting equipment manufactured by Machinecraft, Inc., Whitman, Mass. Cotton-McCauley & Co., Inc., Pawtucket, R. I., also will continue to sell and service the Machinecraft product line. **(Circle T-15 on Reader-Service Card)**

Vibration Meter

A portable vibration meter that measures the vibration of spindle bases on spinning frames has been introduced by General Enterprises, Inc., P. O. Box 3774, Greenville, S. C.



The unit, which consists of a portable probe and control unit, is used to detect bad spindle and bobbin operating conditions that increase tension variation, oil consumption, housekeeping, wear, and power consumption.

The light-weight machine has three ranges of sensitivity to match mill conditions, and its magnetic pickup requires no power source. **(Circle T-16 on Reader-Service Card)**

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Norgren PNEUMATIC PRODUCTS

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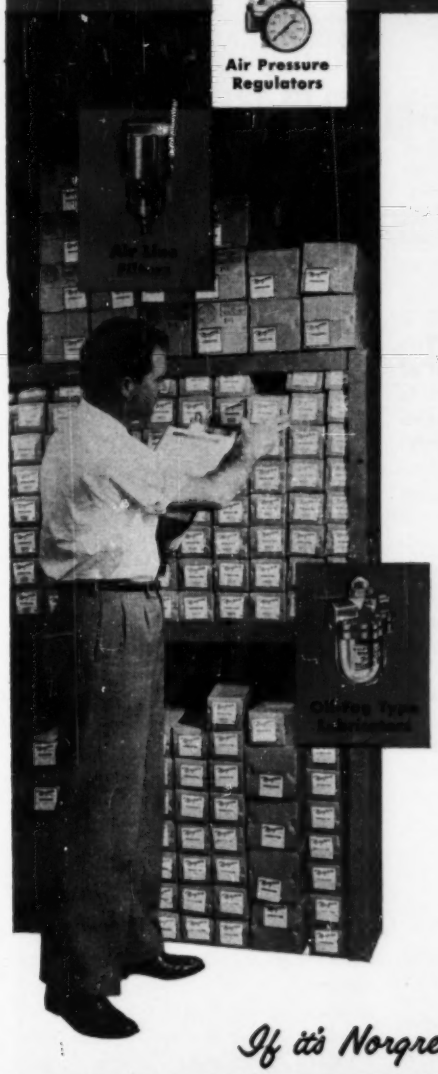

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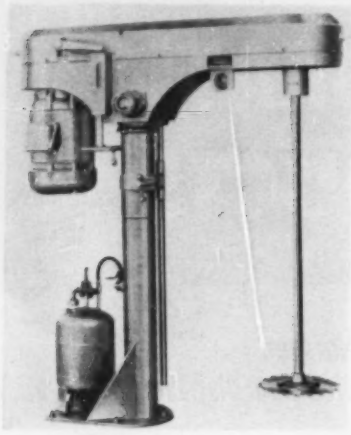
CIRCLE 131 ON READER SERVICE CARD 131

Variable-Speed Mixer



Many types of dispersions and solutions that are used in manufacturing operations can be produced with a variable-speed dissolver marketed by Morehouse-Cowles, Inc., 1150 San Fernando Rd., Los Angeles 65, Calif.

The unit uses variable-pitch pulleys and a belt drive to transmit up to 90% of motor horsepower to the impeller even at lowest speeds. **(Circle T-17 on Reader-Service Card)**

Wide-Roll Pipe Cutter

A pipe cutter featuring extra-wide rolls is being sold by The Ridge Tool Co., 400 Clark St., Elyria, Ohio. The tool is designed especially for power drives. The wide rolls prevent cocking or wobbling of the cutter for perfect tracking and cleaner cuts.

One model has a capacity of ⅛ to 1¼ ins. and weighs 6¼ lbs.; a second model cuts pipe of ⅛ to 2 ins. and weighs 8¼ lbs. **(Circle T-19 on Reader-Service Card)**

High-Density Starch

Globe Brand Easy-Flow No. 3366 is a new form of starch available from Corn Products Co., 17 Battery Place, New York 4, N. Y.

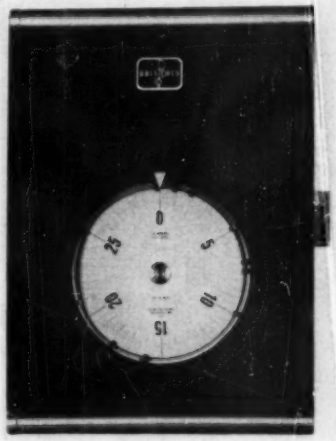
The starch is 40% more dense than usual corn starch and is easier to handle. The granules are uniform in size and pH, and they cook up quickly when used for warp sizings or other purposes. **(Circle T-20 on Reader-Service Card)**

Single-Belt V-Belt Drive

A V-belt drive with a single-belt unit across the full width of seven sheaves has been developed by Raybestos-Manhattan, Inc., Packing Div., Manheim, Pa. The drive is said to give greater driving power because it has twice the contact area of multiple V-belts with only half the face pressure.

With the drive, matching problems are eliminated, there's greater interchangeability of belts and sheaves, more speed ratios with stock sheaves are possible, belt and sheave inventories are less, and less installation space is required. **(Circle T-21 on Reader-Service Card)**

Time-Cycle Controller



Great flexibility features a time-cycle controller introduced by The Bristol Co., Waterbury 20, Conn.

The instrument can control as many as 10 different variables for a number of textile applications. The pilots-pneumatic, electric, or combination types may be operated simultaneously or in sequence; and each pilot can perform up to 24 operations.

Variations of the basic model offer standard pneumatic pilots, high-capacity pneumatic pilots, and special-purpose switches. **(Circle T-22 on Reader-Service Card)**

Paint-Spraying System

A paint-spraying system that requires no atomizing air has been announced by Lincoln Engineering Co., 4010 Goodfellow Blvd., St. Louis 20, Mo. Hydraulic pressure alone atomizes the material in the No-Air Dyna-Spray system.

Advantages of the system are: material does not have to be heated, less material is used because the material is sprayed where it belongs, and overspray and bounce-back are cut. In addition, the method reduces the amount of the material in the atmosphere and generally eliminates the need for extensive ventilation. A smaller compressor can also be used.

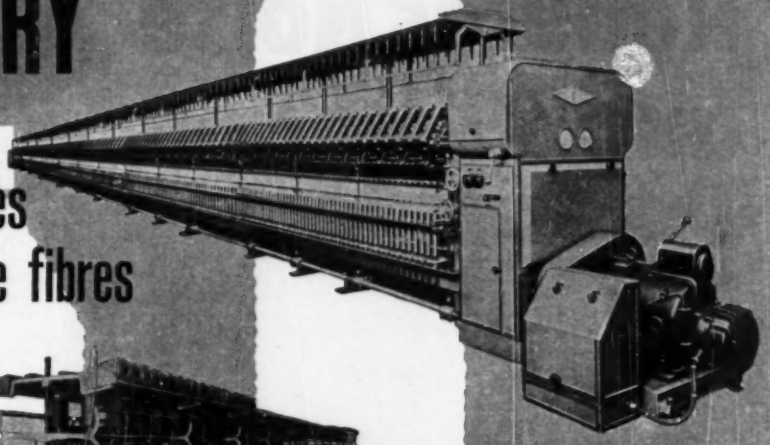
Four different nozzles are included to offer a variety of spray angles from 15 to 80°. The heavy-duty spray gun weighs only 12 oz. and has a trigger that can be locked in open position for continuous spraying.

Powered by the new Lincoln Power-Master pump, Dyna-Spray produces a pulsation-free spray pattern at pressures ranging from 400 to 2,000 psi. **(Circle T-18 on Reader-Service Card)**

CONTINUED ON PAGE 141

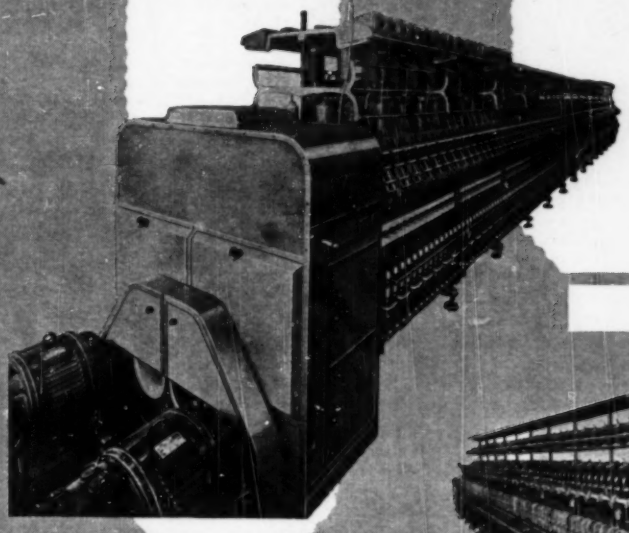
MACHINES FOR THE TEXTILE INDUSTRY

roller spindles
for all textile fibres



Cotton ring spinning frame

Ringtwisting frame for carded wool



Wool ring spinning frame

momo

COGNE

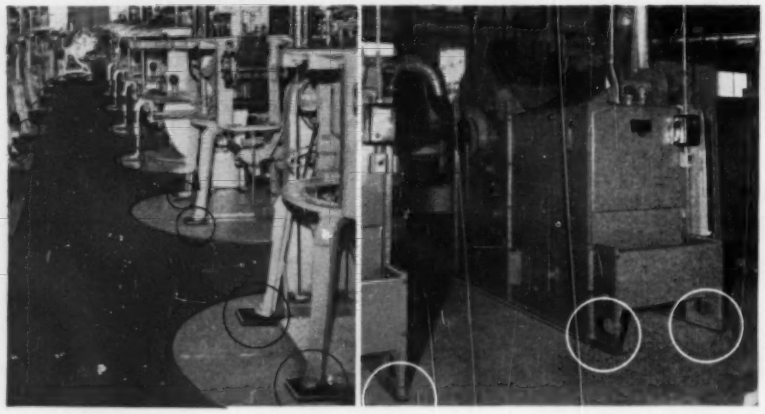
ITALY
TORINO
via s. quintino 28

high quality special steels

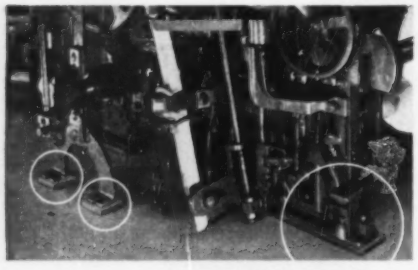
COGNE PUBBLICITÀ 263

Leading Textile Mills Report...

UNISORB Cuts Costs Reduces Noise and Vibration



Unisorb pads are used under all types of equipment to save installation time, eliminate lagging and bolting and reduce noise and vibration. Preparatory equipment, Circular Knitting Machines and Looms, as shown here, typify Unisorb installations. Unisorb is the only flexible mount available in variety of grades to suit "vibration personality" of each machine.



Unisorb pads save up to 75% in installation time — just apply cement to pad and set in place. **No danger of "walking"** and machines can be moved any time. Every mill can be made quieter and more efficient.

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FE8-31

NEW LITERATURE

TEXTILE MACHINERY & AUXILIARY EQUIPMENT

Spooler conveyor—That handles all types of spun yarn and cuts down on labor cost, yarn damage, floor space, and yarn trucks is described in bulletin from Whiting Products. **(F-1)**

Ventilator-control manual — Covers complete line of control systems for all types of unit ventilators and shows cycles of operation, damper-sequence charts, installation data, and actual applications. Barber-Colman Co. **(F-2)**

Immersion- and radiant-heating units —Are described in bulletins that give specifications, selection data, and actual applications for Chromalox equipment from Applebee-Church, Inc. **(F-3)**

Automatic knock-off switch—For spinning frames is described in bulletin that gives operating advantages and tells how to install the switch. First of a series of bulletins designed to improve textile operations. Micro-Switch. **(F-4)**

Filling-wind cam—For warp spinning is described in bulletin that gives advantages and tells how the cam is saving one mill $18,000 per year in direct-labor cost. Seabrook Transmission Co. **(F-5)**

Variable-speed drives—96-p. catalog explains in few words and many photos and drawings the wide assortment of styles, modifications, and accessories available in the Motodrive line. **Available on letterhead request from Reeves Pulley Div., Reliance Electric & Engineering Co., Columbus, Ind.**

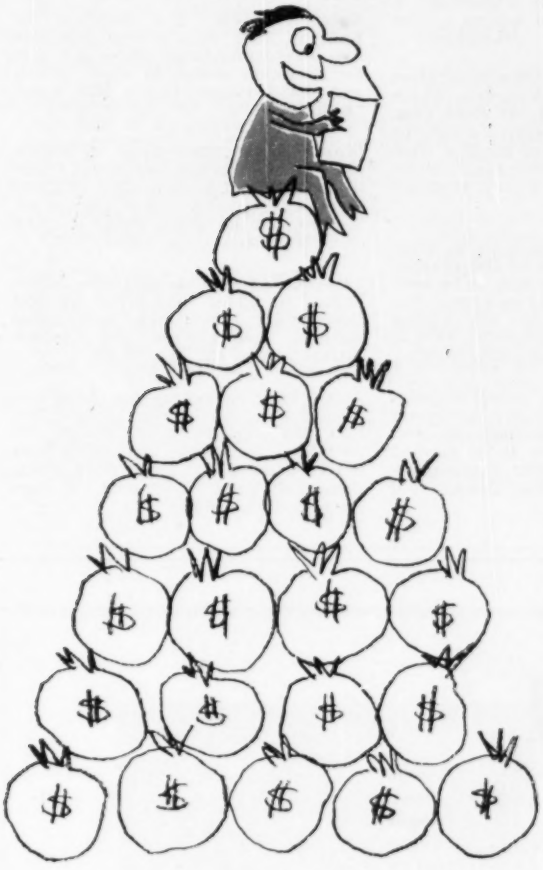
Conical rings—That permit faster operation, produce cleaner yarn, reduce ends down, use less oil, and increase traveler life are described in folder from Herr Mfg. Co., Inc. **(F-6)**

Strapping tools—Booklet tells how to save time and effort in steel strapping and describes many ways in which air-power strapping tools are serving industry. Signode Steel Strapping Co. **(F-7)**

Card clothing—That can be wound on 1½- to 60-in.-dia. cylinders is described in folder that tells how teeth can be straightened without breaking and why points hold original shape. Proctor & Schwartz, Inc. **(F-8)**

Combing process — Called Upsheen that upgrades cotton by removing a minimum percentage of fibers at a production rate of 70 to 80 lbs. per hr. is described in a folder designed especially for carded-yarn mills. Saco-Lowell Textile Machinery Div., Saco-Lowell Shops. **(F-9)**

Men who read more ...earn more!



Most of us recall at least one classmate who "never cracked a book", but somehow got by. Wonder where he is today?

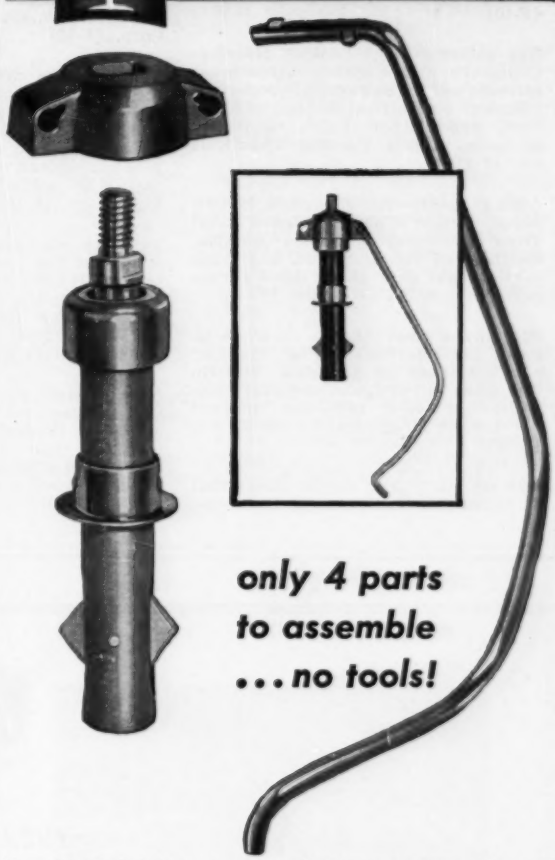
Because today, in business and industry, "just getting by" isn't good enough. Sooner or later it spells defeat.

Men who "do crack a book", regularly and well . . . and particularly the McGraw-Hill specialized publication that is edited selfishly for them . . . do their jobs better, get ahead faster.

Just recently, for example, a fascinating study in another field showed that the men who invested five hours a week in reading business magazines earned an average of 75 percent more than those men who spent only an hour in reading. It makes sense in your business, too . . . doesn't it?

Men who read more . . . earn more!

NEW BENDIX SPIN-MASTER BOBBIN HOLDER



New simplified design . . . with only four, easy-to-assemble parts! New modern plastic construction . . . for lighter weight, greater efficiency! That's the new Bendix Spin-Master—the most modern bobbin holder in the textile industry!

By replacing steel tubing with Kralastic, a tough, durable plastic, the Spin-Master is lighter, less complex, lower priced. A new die-cast, all-purpose dust cap incorporates a positive locking device that assures uniform tension . . . permits yarn to flow freely from the full or partly full package.

Order the new, improved Bendix Spin-Master, or that long time favorite of the textile industry—the Eclipse* Bobbin Holder—from the nearest supplier listed below.

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ALL OTHER INQUIRIES TO:

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Eclipse Machine Division • Elmira, New York

Bendix AVIATION CORPORATION

Odell Mill Supply Co., Greensboro, N. C. North Carolina • Virginia	Export Sales: Bendix International, 205 E. 42nd St., New York City
Greenville Textile Supply Co., Greenville, S. C. South Carolina • Georgia • Alabama • Tennessee	FURNISHED AS ORIGINAL EQUIPMENT BY LEADING TEXTILE MACHINE MANUFACTURERS

CHEMICALS & SUPPLIES

Dacron-cotton warp sizing—A binder called Rezosol 1460 is discussed in technical bulletin that gives advantages of the binder and tells how to prepare size formulas for poplin and broadcloth. E. F. Houghton & Co. (F-10)

Dye solvents—40-p. booklet describes Cellosolve and Carbiton glycol-ether solvents and gives physical properties, chemical derivatives, end-use possibilities, specification limits, and test methods. Union Carbide Chemicals Co. (F-11)

7,000 reagents—Are described in new 365-p. "Fisher Chemical Index" that gives structural formulas, weights, melting and boiling points, and much other useful data about these chemicals. Fisher Scientific Co. (F-12)

Polyvinyl-alcohol fibers—Now designated as "vinal" instead of "vinylon" are described in technical bulletin that gives physical and chemical properties of staple, tow, and filament fibers. Air Reduction Chemical Co. (F-13)

Dye assistant—For acrylic fibers that serves as a retarding agent in the absorption of basic dyes is described in bulletin that also tells how the chemical can be combined with caustic soda and hydrosulfite to strip vat dyes from fibers. W. F. Fancourt Co. (F-14)

Ethylene oxide—48-p. technical manual brings up to date all available information as to the chemical and physical properties, specifications, analytical procedures, and end uses of this intermediate. Dyestuff & Chemical Div., General Aniline & Film Corp. (F-15)

Fiber-reactive dyes—Pamphlet gives the shade range of Procion dyes, which have been increased to 26 since 1956, and tells how the reactives can be used to produce shades ranging from pale to deep and covering nearly every part of the spectrum. Arnold, Hoffman & Co., Inc. (F-16)

Vat dye—Circular deals with properties and applications of Indanthrene Corinth B Infra Paste said to be suitable for application on cellulosic textiles in any form by any dyeing method. General Dyestuff Co., Div. of General Aniline & Film Corp. (F-17)

Nylon slashing—Of producer-twist yarn is described in an announcement about the Chemsize method that permits this type of yarn to be slashed and woven without prior winding, uptwisting, and steaming. Chemstrand Corp. (F-18)

Antistatic finishes for Acrilan—A list of 70 antistatic agents and their methods of application in finishes for Acrilan fabrics is available from Chemstrand Corp. (F-19)

ENGINEERING & MAINTENANCE

Speed reducers—Are described in Bulletin A692 that covers complete line of shaft-mounted single and double reduction models in 5-to-1, 15-to-1, and 25-to-1 ratios. Dodge Mfg. Corp. (F-20)

Washable air filter—Made of plastic foam set in a permanent metal frame is described in bulletin that explains method of cleaning, use of viscous adhesives, and the filter's ability to catch lint. Microtron Corp. (F-21)

Self-cleaning pipeline strainer—Is discussed in folder that gives physical description, dimensions, mechanical features, screen sizes, and strainer ratings. Sarco Co., Inc. (F-22)

Small basic switches—Are described in new 20-p. catalog that covers function and application of almost 100 switches, actuators, and assemblies designed for use in constricted areas. Some switches are postage-stamp size. Micro-Switch. (F-23)

1929–1959

30 Years

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ZURICH

CONSULTING ENGINEERS FOR THE TEXTILE INDUSTRY

REORGANIZATION
PROJECTS
NEW PLANTS
COST ACCOUNTING
APPRAISALS

NEW LITERATURE Continued

Automatic drain trap—For use on all types of compressed-air installations and designed to discharge condensate and oil as it is collected up to 60 gals. per hr. is described in bulletin from Perfecting Service Co. (F-24)

Dry-steam generators—For use in process operations such as dyeing and finishing are described in technical bulletins that also give case histories. Size of generators range from 15 to 160 hp. Clayton Mfg. Co. (F-25)

"Compressed Air Fundamentals"—Is the title of a booklet that tells how air is compressed and what machinery to use. Other information includes tabular and chart data on amount of air required, cylinder diameters, ratios of compression, and flow of air through orifice. Ingersoll-Rand Co. (F-26)

Heat-reclaimer data sheets — That make it easy for textile mills to exchange preliminary engineering information with the machinery manufacturer are available in chart form from Patterson-Kelley Co., Inc. (F-27)

Data conversion chart—For engineers and executives shows at a glance the relationship between inches and centimeters, watts and horsepower, microns and meters, and many other factors. Precision Equipment Co. (F-28)

Motor maintenance—63-p. book entitled "Protective Maintenance of Motors and Generators" contains suggestions for handling everyday electrical problems. Other information includes checklists and standards for classification of parts and supplies. National Electrical Manufacturers Assn. (F-29)

GENERAL

On-the-job training—Through specialized coaching given by experienced operators is described in a book designed to help the trainee, the coach, and the supervisor by simplifying the problems involved in "learning how to do a job by doing it." The book also tells how to install the system and gives specific examples of how the system has been successfully applied to specific jobs. Saco-Lowell Shops. (F-30)

Fork-lift trucks and attachments—Especially designed for cotton and textile handling are described and illustrated in brochure that depicts various units at work in mills and warehouses. Construction and engineering features are pointed out. Clark Equipment Co. (F-31)

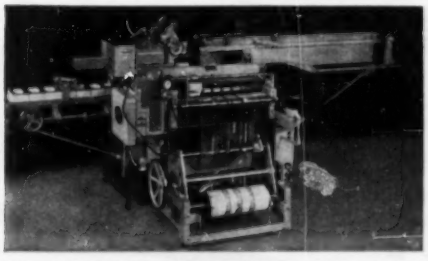
Trucking information—Covering routes, terminals, and special services for textile mills are described in a folder from McLean Trucking Co. (F-32)

Live-storage racks — That improved order picking and carton storage are described in bulletin that gives specifications and points out the 10 basic rules for order picking. Two installations that cut labor cost 400% and paid off in six months are illustrated. M-H Standard Corp. (F-33)

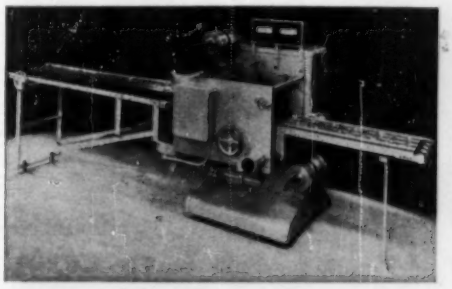
Safety suggestions—Three data sheets discuss operating hazards that include falls, electrical shock, fire, and unsanitary conditions. Included is a safety checklist for floor maintenance. Puritan Chemical Co. (F-34)

Package-marking equipment — Folder describes machines that can be set up in the plant to mark sizes, stock numbers, and other information on a wide variety of box sizes and shapes, empty or filled bags, and envelopes. Textile & Apparel Div., Markem Machine Co. (F-35)

Intercommunication systems—With 2 to 100 (and over) telephone lines are described in folder that lists many special features such as conference circuits, loud-speaker outlets, and fire alarm signals. Kellogg Switchboard & Supply Co. Div., International Telephone & Telegraph Co. (F-36)



NOW YOU CAN HAVE TOMORROW'S OVER-WRAPPING MACHINE TODAY! Battle Creek's completely new Model 475 successfully handles more than 40 different formulations of soft plastic film . . . your assurance new plastic film developments will not outdate this machine. Change of films requires only electronic heat adjustment. Size changes are made in 15 minutes. Wraps up to 75 per minute within 5" to 12" lengths, 3" to 8½" widths and ¼" to 4" heights. Choose any of these films—polyethylene (medium, low and high density 1 mil and up), polystyrenes, heat sealing cellulose acetates, heat sealing foils, polyvinyl chlorides, cellophanes, polypropylenes or polymer coated films. Battle Creek *"Continuous Flow"* Packaging Machines, Inc., Battle Creek, Michigan.



CHANGE PACKAGE SIZES WITHOUT EXCESSIVE DOWNTIME! Handwheel controls for varying the pouch width, and a simple gear change for varying pouch length, — both made without disturbing the heat-sealing units — provide almost instant adjustability. Thin articles (not necessarily uniform in shape) are pouch packaged between two endless strips of heat-sealing packaging materials at speeds up to 80 per minute. Pouch sizes range from a minimum of 2" x 2" x 1/16" to 27" x 15" x 1½" maximum. The "Flexopaker" is especially applicable for articles in the textile, food, automotive parts, industrial products, hardware or similar industries. High speed "Continuous Flow" performance but with a low price tag. Battle Creek *"Continuous Flow"* Packaging Machines, Inc., Battle Creek, Michigan.

POINTERS FOR SUPERVISORS

CONTINUED FROM PAGE 105

. . . you've recognized any other aspects of the feat worthy of mention?

C. Have you publicized his success by telling . . .

. . . his colleagues?

. . . other supervisors?

. . . higher management?

D. Have you tried to re-create the conditions of his success by . . .

. . . setting up the challenge of still higher goals?

. . . shaping your own role in relation to his efforts to either assist, reinforce, or encourage, as the situation warrants?

FULTON SPENDS $1-MILLION

CONTINUED FROM PAGE 58

tion by one operator that was required to keep the blankets properly aligned on the printing machines.

Another important addition to equipment is an automatic weft straightener on a primary drying range that is used to prepare bleached goods for printing. The straightener takes care of both bow and skew.

A manually operated weft straightener has also been installed on a finishing range that is used largely for the production of prints, sign cloth, and water-repellent finishes. This range is now being furnished with a new three-roll 72-in. pad of the latest design.

A new stack of 24 stainless-steel cans is being fitted to a continuous finishing range that is used to produce heavily starched buckram finishes.

Chrome Plating Unit Pays Off

Fulton's new chromium-plating unit for print rollers has proved to be a good investment. The savings in freight costs incurred in shipping rolls to a plating plant have been sufficient to pay a good return on the investment and absorb labor and operating costs.

Downtime on printing machines has also been reduced in two ways: chrome-plated rollers have a much longer service life, and the shipping and delivery time previously needed has been eliminated.

Intercoms Smooth Operations

Four finishing ranges and one continuous dyeing range are being fitted with intercom systems at present. Many of the styles run at the plant are dyed and finished in one run, and finishing setups include both plain and back-filling pads.

The ranges are therefore long and complex, and normal communications between entering and delivery ends is nearly impossible. The intercom systems help materially in cutting time and material losses due to misunderstandings between operators.

Putup Capacity Is Increased

When the plant closed down its bag-making operation, the shift toward commission finishing and a big increase in Fulton's industrial-fabric production required more putup capacity.

Twice as much toweling and four times as much industrial-fabric yardage are now being handled in the

---

10,000,000 CARDING POINTS NEED PERFECT GRINDING ROLLS

THE CARD-GRINDING SPECIALISTS DRONSFIELD'S

TRAVERSE WHEEL GRINDER No 120

SOLID GRINDING ROLL No 112

Enquiries to —
Messrs. Cotton-McCauley & Co. Inc.,
3 Hammond Street
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188 Main Street,
Pawtucket, R. I.

DRONSFIELD BROTHERS LTD · OLDHAM · ENGLAND

putup department as was formerly the case.

This production increase is taken care of by three new examining machines, two new doublers, and two more folders. Conveyors are used to move single pieces to the packing area. Machine realignment has helped to smooth the flow of goods. In the near future, the towel-sewing and packing areas will be revamped to improve work flow.

Mill Committee Controls Changes

All plans for modernization were made by a machinery committee headed by J. A. Bradshaw, maintenance superintendent. Other management men on the committee are Joseph G. Shedd, vice president and general manager of manufacturing; E. Hanes Rogers, assistant to Mr. Shedd; Robert L. Crawford, plant engineer; Homer S. Smith, purchasing agent; M. L. Scott, production-control supervisor; Warren W. Danner, superintendent of cotton mills; and E. L. Hankins, superintendent of finishing.

This committee meets every Tuesday morning at 11 o'clock to discuss the modernization program. Every member of the committee expresses his views on proposed machine purchases and installations.

Every week a report is made of the meeting, and each committee member receives a copy. Every four weeks a progress report of the meetings is made that goes to committee members and to mill directors.

Fulton's modernization was carefully planned. All machines are arranged so that in the future obsolete machines can be replaced without repositioning the present new equipment. The present cost savings are running remarkably close to the figures in the initially proposed modernization plan.

BETTER WORK PRACTICES

CONTINUED FROM PAGE 59

Mill A—"On styles such as 80-square on 40-in. E-model looms running 173 ppm., weavers run 70 looms and inspect each loom four times per hour. They patrol the warp alleys and cloth alleys alternately.

"Actual inspection combines patrolling with random restarting stopped looms. A restarted loom is considered an inspected loom, and weavers leave their regular patrol of an alley to start up a loom nearby."

Mill B—"Weavers patrol the front of looms two out of three patrolling cycles; on the third cycle they patrol the back of looms.

"Weavers also inspect some styles of cloth twice per shift with a flashlight. Other styles are inspected only once per shift."

Mill C—"Weavers are instructed to watch both back and front of looms. As a part of inspection, they check the ends of rolls of cloth for hanging yarn. They also inspect the thread cutters to see that they are holding cut filling-yarn ends. This inspection eliminates jerk-backs.

"Weavers inspect cloth every 2 hrs. for wavy cloth, misdraws, bad reed, and any other visible fabric defect."

Mill D—"We lay out sets of looms so that weavers have three alleys of equal length. Weavers inspect backs of looms every 15 mins.

"Each weaver inspects the cloth on each loom thoroughly with a light at the beginning of a shift and again near the middle of the shift."

Mills are reading pick counters each day for better control of weaver efficiency. But this system has additional advantages: continued interest in the work is stimulated, the payroll department receives needed information, counters out of fix are found, and low efficiency for a complete weave room is pinpointed.

Mill A—"Pick-counter readings are made each day for each shift. This practice is worthwhile because it stimulates continued interest in the work. Substandard production is noted, and prompt correction is taken."

Mill B—"Weavers' efficiency is computed on a daily and shift basis. The advantages justify the cost; and in addition, our payroll system requires this information daily. We post weavers' and loomfixers' efficiency daily."

Mill C—"We read pick counters at the end of each shift and post the production percentages in the weave room. This system pays for itself because supervisors can keep a closer check on efficiency. It's also helpful for weavers to keep close check on their production."

Mill D—"Pick-counter readings are made each day. Advantages justify the cost; and because we operate on a unit system, each style change affects the unit value.

"In addition, any counters out of fix are reported and fixed at once. We also use pick-counter readings to pinpoint low-efficiency looms and occasionally to check a complete weave room."

Loomfixers' Responsibility Grows

In Georgia, as in other states, there's a slowly growing trend toward giving loomfixers limited supervisory duties. Here's how two of the Georgia mills are expanding fixers' work:

Mill A—"We use loomfixers to assist in weave-room supervision. A loomfixer has full responsibility for his section. He reports before each shift change whether weavers and batteryhands are on his job.

"Weavers and batteryhands discuss any problems with the loomfixer; and if he can't handle the problem, he discusses it with his supervisor.

"If the humidity-maintenance man or an electrician is needed, the loomfixer calls them. During the absence of the supervisor, the loomfixer makes all decisions on the section and reports them to the supervisor when he returns.

"We haven't been using this practice very long but it is working well, and we expect to expand and improve this program soon."

Mill B—"We use loomfixers to some extent as supervisors. They instruct other employees, control housekeeping, and report weavers or batteryhands out at the beginning of each shift. But they have no actual authority."

Good Results from Tension Control

One mill is using a tensiometer to check the effects of shuttle tension in weaving. Here are its results:

Mill A—"Our laboratory has experimented with controlling shuttle tension by measuring the tension with a tensiometer, and we have found it helpful in solving several problems. Mispicks, filling-shade changes, and buttonhole selvages correlate closely with excessive shuttle tension.

"Since shuttle tension reaches its highest point near the empty bobbin, anything that tends to increase the tension at this point may cause cloth defects. Some of the factors that cause excessive tension are wet filling, crooked bobbins, worn-out bristles or fur, and misaligned shuttle springs."

CONTINUED FROM PAGE 55

"Our waste summary is:

	Metallic	Conventional
Cotton mix		
Flat strips	1.125%	2.98%
Cylinder strips	0.062	0.75
Card fly	1.05	1.99
Total waste	2.22	5.75
Waste mix		
Flat strips	1.55	3.26
Cylinder strips	0.124	0.75
Card fly	1.74	2.51
Total waste	3.44	6.52

Cotton-Fiber Additives

Opinion varied as to the advantages of fiber additives and the best place to apply them. Typical reports:

Mill C—"We add 0.1% conventional oil spray at the breaker section of our two-beater picker. Cotton processed is 1- and 1⅛-in. SM. There is no noticeable effect on lap weight or waste removed; but there is less fly and the machines stay cleaner. We had a slight increase in yarn strength, no change in yarn evenness, and no change in twist requirements. More neps are produced."

Mill D—"About 1½ % of UNOX-1 is sprayed on 1⅛-in. SM cotton through the top of the F-7 blending feeder. Lap weights tended to heavy up about 0.8 lb. when the solution was first applied; so we had to adjust the evener.

"Waste at the pickers is dirtier and heavier, but there is less fly on the pickers and cards. Clearer waste is packed firmer at drawing and roving, and no change had to be made in roving twist. Tests show no change in strength or evenness of yarn."

Mill J—"We spray 2% UNOX-1 on ⅛-in. LM cotton at the picker hoppers, and the laps gain about 1 lb. in weight. The spray helps keep our machines cleaner, and waste removed is of a lower grade than formerly because fewer good fibers are broken.

"We've had no significant improvement in yarn strength, but our ends down at spinning are reduced."

Mill K—"We have used the conventional oil spray for years at our pickers and have tried UNOC-7 in an all-waste mix. The latter does not appear to have helped us, and we are reluctant to use it in cotton mixes going into fabrics because of its fluorescent qualities.

"The 0.2% spray is applied to ⅛- and 1-in. M and lower-grade cottons from a wiper bar located under the feed rolls inside the beater housing. The spray has no effect on lap weights. Machines stay cleaner, running conditions are improved, and we see no difference in yarn quality."

High-Compression Laps

About half of the reporting mills said that pneumatic lap-control systems enable them to increase lap weights 20 to 30 lbs. The remaining mills reported an average increase of 10 lbs. per lap.

Mill F—"We increased our lap weight from 50 to 80 lbs., which is the heaviest lap we can handle satisfactorily. The lap is 19 ins. in diameter and weighs 16 oz. per yd. The heavier lap had little effect on cost except that we were able to eliminate one man per shift between opening, picking, and carding. There is less waste."

Mill H—"We increased our lap weight from 54 to 80 lbs., which is the heaviest lap practical for us. The lap weighs 16 oz. per yd. and is 20 ins. in diameter. The change reduced opening and picking running time 3 hrs. per 24-hr. day.

"Maintenance cost has been very light during the 10 months we've had the equipment. Waste is about the same at the pickers, but it went up slightly at the cards. We reduced our picking operation from 19½ to 16 hrs. per 24-hr. day. Card tenders gained enough time to do their own mopping, which formerly was done by opening and picking men."

Mill K—"We increased lap weights from 56 to 70 lbs., which we think is heavy enough for manual handling. The laps weigh 16.50 oz. per yd. and are 19 ins. in diameter.

"The change permits us to run 24 pickers with two helpers instead of three, and we were able to increase work assignments for card tenders because of fewer lay-ins. The only disadvantage is in handling the extra weight."

Card-Room Weight Control

Practically all of the mills reported that some form of regain control in the picker room helps maintain proper weights throughout carding. Most weight changes are made at drawing or roving.

Mill B—"We use a moisture monitor and think that the picker is the most important point for controlling weights. However, drawing sliver and roving are weighed every day. If drawing varies more than two grains per yard or roving varies over two numbers, the draft gear is changed. Since installing the moisture monitor, we've had to make very few gear changes at either process."

Mill C—"We use a moisture monitor in the picker room and strip our cards so that all piecings will not come together at the same time at drawing. Drawing is the most important process for maintaining weight control over stock.

"We used to change drawing draft gears when individual frames indicated light or heavy sliver; but now we change gears only when there is a major change in the weight of stock. At such times, we change gears on all drawing frames. We change roving-frame gears when hank roving varies 2% in weight.

"Some time ago we eliminated one Superior cleaner and one vertical opener from each of two opening lines. At the same time, the pickers were changed from three to two processes. No variation in stock weights was observed after these changes."

Mill I—"Scheduled weight checks are made regularly at each of our carding processes. Results (including range variation) are charted, and control limits are indicated on the charts. When variation gets out of limits, 'out-of-control' slips are issued to overseers.

"Yarn weight is controlled most of the time by making gear changes at roving; occasionally weight is corrected at the finisher drawing. We believe the moisture monitor has improved our picker-lap variation."

Mill L—"We formerly used a regain indicator in the picker room but discontinued its use after installing controlled humidity. Weight of stock is controlled by standardized draft constants and lap-roll gears on cards.

"Finisher drawing is the most important control point for yarn weight. We weigh finisher drawing once a week and keep a graph chart on each frame. Any frame that has a sliver variation of more than ± ½ grain for several consecutive weighings is changed."

BETTER SLASHING PRACTICES

CONTINUED FROM PAGE 62

Mill B—"Our portable knotter is actually tying an average of 6 hrs. of an 8-hr. shift for over-all efficiency of 75%. Loom downtime per warp averages 2 hrs. per warp, but this figure also includes cutout warps for pattern changes.

"Two men work ahead of the machine operator to prepare the warp. They put lease rods in the pattern on the loom, take the empty loom beam to the slasher room, bring a full yarn beam to the loom, put it in the loom, and put the loom-pattern yarn and the new-warp yarn in the frame for the tying machine with the warps ready for the machine operator to tie them."

Mills Hold Warp Stretch at 2%

Most mills are shooting for only 1½% over-all warp stretch; but because it's difficult to maintain stretch this low, they're settling for 2%. On wet warps, the stretch is somewhat higher, usually 4%.

Mill A—"On dry warps, we run 1½% over-all stretch. An average set is: 1,520 ends of 16s yarn, 24-in.-dia. loom beam 50 ins. wide, 3,000 yds. per loom beam, and 360 lbs. per beam.

"On wet warps, we run about 4% over-all stretch. An average set is: 5,800 ends of 14½s yarn, 26-in.-dia. loom beam 60 ins. wide, 1,100 yds. per loom beam, 580 lbs. per loom beam, and 20 to 21 section beams."

Mill B—"Average warp stretch is 1.75% within an over-all range of 1.50 to 2%. A 31s warp with 3,146 ends on a 20-in.-dia. beam head 44 ins. wide holds 1,600 yds, of yarn."

Mill C—"We maintain warp stretch at 1½ to 2%. A warp with 1,080 ends of 12s yarn on a 22-in.-dia. loom beam holds 1,500 yds. of yarn."

Mill D—"Our standard warp stretch is 1½%; but we very seldom get our stretch down to standard since our average stretch is 2%. We run 2,008 ends of 9s yarn on 22-in.-dia. loom beams 39¼ ins. long with 873 yds. of yarn."

Mill E—"On a set with 5,560 ends of 24s carded yarn, stretch is 2¼ to 2¾%. This set contains 1,390 yds. of yarn on 26-in.-dia. loom beams 50 ins. wide.

"We pack the yarn firmly on the beam but try to control density with the pneumatic beam compressor rather than with yarn tension."

Stainless-Steel Beams Stop Stains

Twelve mills have trouble in eliminating rust-stained selvages caused by metal dust from the rubbing action of the presser roll against cast-iron beam heads.

One mill has replaced cast-iron beam heads with stainless-steel heads to totally eliminate stains, and a second mill is thinking of adding stainless-steel beam heads. Eight mills improve this stain condition by replacing metal plugs in the ends of their presser rolls with fibre inserts. Two mills have traversing presser rolls, which also help eliminate rust stains.

Six mills use some type of white paint to paint the insides of beam heads. Two mills are aided by a coat of paraffin wax on the beam heads.

Mill A—"To prevent rusty and stained selvages at loom yarn-beam heads, we replaced the regular cast-iron heads with stainless-steel heads. This replacement is expensive, but it's effective."

Mill B—"To eliminate stained selvages, we paint our iron beam heads on the inside with a mixture of clear shellac and powdered white lead. And we use fibre heads on the presser rolls."

Mill C—"To prevent stained and rusty selvages caused by the rubbing action of the presser roll against the beam heads, we use paraffin wax. We also paint the inside of beam heads with white paint. But these practices don't overcome the difficulty completely."

Mill D—"We eliminate stains by removing the metal end plugs of the presser roll and replacing them with fibre plugs.

"Our slashers have traversing presser rolls, and therefore most stains are eliminated because the presser-roll heads are not constantly running against the beam heads."

Circulation Lowers Size Viscosity

Men from several mills believe that excessive circulation of cooked size lowers size viscosity as the storage kettle becomes nearly empty. Here's what two mills are doing to keep pumped-size viscosity constant.

Mill A—"We use a 42-hp. centrifugal pump for four stainless-steel size lines that run from the storage kettle to the slashers; then the size is recirculated through the storage kettle. We use 225 gals. of size per hour with the result that a given batch is circulated for 1 hr.

"We checked the size with the stop-watch-and-cup method to determine how overcirculation affected size viscosity. When size was ready to be pumped to the storage kettles, the stop watch read 9 secs. But when the storage kettle was almost empty, the stop watch read only 7½ secs. Therefore we assume that excessive size circulation thins the size.

"To correct this low viscosity, we now make our size formula a little on the heavy side."

Mill B—"We use centrifugal pumps to raise size from storage in the basement to the first-floor slasher room. Each pump has an overflow return pipe to the storage kettle so that the pump continues to circulate size when the size boxes are cut off the line.

"When we installed these pumps, we made a size-viscosity test and could not detect any difference in size viscosity from a full-to-empty storage kettle."

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 132

Electrical Push Buttons

A line of low-silhouette oil-tight push buttons to control all electrical equipment and machinery is available from Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa. These push buttons, Type OT2, are composed of operators and contact blocks and are for use in areas where space and appearance are important.

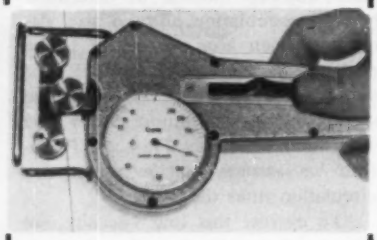
They offer the advantages of minimum projection in front of the panel, a shallow contact block behind the panel, interchangeable color caps on the operators, contact blocks for multiple stacking, and angled wiring terminals for easy wiring when stacked.

The push buttons measure 1¼ ins. from the front of the panel to the back of one contact block with a projection of ⅜ in. in front of the panel. The contact blocks are ¾ in. deep, $2\frac{1}{32}$ ins. wide, and 7⅞ ins. high over the terminals. **(Circle T-23 on Reader-Service Card)**

Temperature Recorder

An indicating temperature recorder introduced by Minneapolis-Honey-

SCHMIDT
DXX TENSIOMETERS



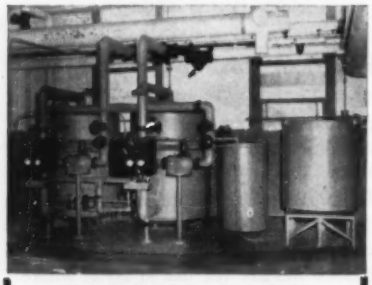
featuring . . .

- FRONT FILAMENT LOADING
- THUMB-OPERATED, BALL-BEARING ROLLER RELEASE (Permits easy insertion and removal with no work stoppage.)
- GUIDE BAR TO ASSURE PROPER MATERIAL ALIGNMENT

Available in 9 ranges—from 3g. to 10Kg. Monitors tensions of many materials in various forms, including filaments, cables, tapes, bands, etc. Other hand-operated and stationary models available measuring up to 1500Kg. *Write for brochure.*

ELECTROMATIC
Equipment Company
175 5th Ave., New York 10, N. Y.
ORegon 7-5520

CIRCLE 251 ON READER SERVICE CARD



INVERSAND WATER SOFTENER PLANT
producing
CLEAR IRON-FREE 100% SOFT WATER
Often For As Little As 1¢ per 1000 Gallons

Troubled with harshness, poor finish, uneven shades, redyes, seconds, and other product difficulties—?? The secret of uniformity may lie in your water supply. May we check it for you?

HUNGERFORD & TERRY, Inc.
Clayton 9 New Jersey

introduced by Minneapolis-Honeywell Regulator Co., Industrial Div., Wayne & Windrim Aves., Philadelphia, Pa., combines high quality with low cost. It gives excellent service in heating and cooling operations at temperatures between −50° and +1,200° F.

Although it is ruggedly designed for field mounting and can be surface mounted, this controller is attractive enough to be flush mounted in a panel with other instruments.

Features are: the liquid-filled thermal system gives high sensitivity, load rating is 62.5 v.-amps. at 115- to 230-v. a.c. pilot duty, set point and temperature indication are readily visible with a scale 4 to 5 ins. long, centigrade ranges are available in graduations, and the externally adjustable set-point knob is conveniently located on the front of the case. **(Circle T-24 on Reader-Service Card)**

Motor for Pumping

A NEMA rerated vertical motor for easier installation and maintenance in pumping applications is available from General Electric Co., Schenectady 5, N. Y. It is totally enclosed, fan cooled, and explosion-proof.

Features that provide easier maintenance are oversize oil-filler hole, large drain plug, easy-access conduit box, oil-level sight gauge, and lightweight top cap. Lifting lugs help in installing the motor.

The full line of motors has ratings from 7½ to 125 hp. at 1,800 rpm. Alternate bases are available to fill requirements for most units with the superseded NEMA base dimensions. **(Circle T-25 on Reader-Service Card)**

Electromagnetic Clutch

An electromagnetic clutch will be sold and serviced in the U. S. and Canada by Twin Disc Clutch Co., Racine, Wis., under license of the German firm, Ortlinghaus.

The clutch, Model KA, is a wet-type clutch for use in semiautomatic and fully automatic process machines. It permits an almost unlimited range of spindle speeds, feed and traverse movements, and directional changes.

The compact design permits as many as 40 clutches to be used in a single machine with mounting on motor shaft or countershaft as desired.

The simple magnetic principle provides high-torque capacity and assures automatic wear take-up to eliminate adjustment problems. Standard 90-v. d.c. coils are used, and other voltage coils are available for special requirements. And since 110-v. a.c. rectifies to 90-v. d.c., no transformer is needed on the standard unit.

The clutch is available in eight sizes from 3.3- to 11.5-in. dia. Horsepower rating is ¼ to 34½ at 100 rpm. with maximum torque ratings of 14.5 to 1,812 ft.-lbs. **(Circle T-26 on Reader-Service Card)**

Weatherproof Motor

A weatherproof a.c. motor for outdoors announced by Reliance Electric & Engineering Co., 24,701 Euclid Ave., Cleveland, Ohio, is made in all standard speeds in sizes from 1 through 250 hp.

An open motor that exceeds NEMA splashproof requirements has all external parts of corrosionproof cast iron. Shaft openings are sealed by a shaft cap and slinger.

The insulation system cannot absorb water and has silicone sleeving, glass-mica slot liners, and mat top-sticks and mid-sticks. Heavy wire coils are immersed in thermosetting oil-and-water-resistant varnish and are sealed with red finishing enamel. **(Circle T-27 on Reader-Service Card)**

Data-Processing System

A fully integrated data-processing system for textile plants is available on a rental basis from Royal McBee, Data Processing Div., Port Chester, N. Y. The system is built around the Keysort Tabulating Punch. The machine automatically code punches and tabulates original records.

The basic document in the system is a card with coded holes built into its edges. These holes are notched to indicate many factors: style, size, color, lot number, machine, worker, customer, and other data.

The Tabulating Punch added to the basic system automatically accumulates totals. It code punches and tabulates amounts in cards; reads,

Better Lubrication Systems Cut Maintenance Costs

In taking a long hard look at reducing maintenance costs, it's well to look first at your lubrication system. And since there's increasing emphasis on newer machines that operate at greatly increased speeds with heavier loads and equipped with electronic and hydraulic controls, the need for better lubrication is essential.

Old Systems Have Seven Defects

There are seven problems that have to be overcome with antiquated lubrication systems:

1. Yarn and fabric spoilage from stains of excess grease and oil.
2. Excessive wear on machine parts that results in high parts-replacement costs, labor costs, and machine downtime. This wear is particularly serious on rings, travelers, spindles, and cams.
3. Rust and corrosion of machines operating under severe-humidity conditions.
4. Difficulty of properly lubricating machines operating under high-temperature conditions, such as tenter frames and calenders.
5. Bad housekeeping and the constant fire hazard caused by excessive oil drippage combined with fly.
6. Stocking too great a number and variety of lubricants.
7. Excessive power consumption with machine bearing friction.

At our mill, a new lubrication system that includes much centralized-lubrication equipment has solved these seven problems. Automatic ring lubrication on twister frames controlled by a time clock on a power-drive lubricant pump is particularly advantageous in cost savings and in helping us reorganize our lubrication system more efficiently.

A new lubricating system at a second mill has resulted in spectacular savings. A centralized system has been added to 107 machines, with over 200 lubricating points on some machines.

These new systems have almost completely eliminated stains on yarn and fabric, and we no longer have to worry whether every bearing is getting the right amount of lubrication. Savings in labor, materials, and machine downtime paid for the second system in less than a year.

Automatic time-clock-controlled lubrication has completely solved the problem of rust and corrosion because the highly polar stable lubricants we're using at present protect bearings and shafts with a protective film to replace moisture that often covered these surfaces.

Machines Run During Lubrication

Now we don't have to shut down our machines for an oiler to reach interior bearings, which is also a saving in machine downtime.

Housekeeping is much improved because the sealed lubrication systems eliminate oil dripping. In addition, the present cleaner condition of machines and an assured supply of lubricant to every bearing are helping prevent fires.

One type of lubricant is replacing four or five types formerly used with manual lubrication. On some machines, oil consumption has been cut up to 50%.

Inadequate lubrication that formerly resulted in excessive friction and drag on machine parts has been eliminated. Therefore the power-drain to operate the machines has been lessened to cut power consumption up to 20% on some machines. *Based on a paper given by Clyde E. Moss, Firestone Textile Div., Firestone Tire & Rubber Co., at a meeting of the American Society of Lubrication Engineers*

EQUIPMENT & SUPPLY NEWS continued

duplicates, and summarizes these figures; and simultaneously prints them onto paper tape for visual verification.

Other data are given on order and sales analyses, cost of yarns and fabrics sold, accounts payable, inventory control, and production scheduling. **(Circle T-28 on Reader-Service Card)**

your no. 1 source

GARLAND

for

LOOM PICKERS . . . RAWHIDE and PLASTIC

BUNTERS

LEATHERS

ROD LUBE

Send for complete information on ALL Garland textile products. Ask for special data on new Garland plastic loom pickers.

Garland MANUFACTURING CO

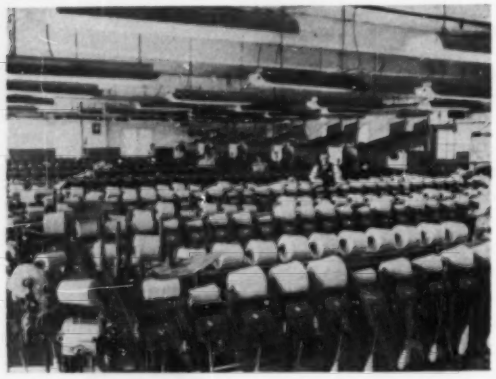
Also manufacturers of Nylon and Rawhide Hammers and Mallets.

50 WATER STREET • SACO, MAINE

ABBOTT MACHINE CO., Inc.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.



AUTOMATIC CONE OR TUBE WINDERS—for winding all types of spun yarns on cones or tubes for Warping, Dyeing, Twisting, Quilling, Knitting or Sales Packages.

SPECIAL WINDING UNITS FOR KNITTING CONES—include a new slub catcher and a new waxing attachment, which uses standard size commercial wax disks.

LARGE PACKAGES—can be wound up to 11½ inches in diameter for use on shuttleless looms and looms that require a cone supply.

MODEL I AUTOMATIC QUILLER—for coarse count cotton, worsted, wool and other spun yarns, delivers full loom bobbins automatically into boxes, onto pinboards, on wide belt conveyor for inspection of bobbins, or into specially made magazines for automatic loom feeder.

MODEL II HIGH SPEED AUTOMATIC QUILLER (10,000 R.P.M.)—for winding fine count cotton and synthetic yarns of either spun or filament construction.

Also delivers full loom bobbins automatically into boxes, onto pinboards or wide belt conveyor for inspection of bobbins.

Under some conditions one operator can run two or three machines and produce upwards of 2500 full loom bobbins per hour.

ABBOTT FULLY AUTOMATIC RADIAL QUILLER, MODEL II—especially designed for flexibility, is very versatile and particularly well adapted for winding numerous small lots of filling.

Winds coarse or fine count cotton, worsted, wool, rubber and various synthetic yarns, either spun or filament.

Automatic delivery of full loom bobbins onto pinboards, wide belt conveyor for inspection of bobbins, into baskets or other type containers.

Automatic delivery of bobbins can also be supplied whereby full loom bobbins from the individual cones and spindles are delivered into separate containers, which is highly desirable for loom finish yarns and the like.

The Radial Quiller can also be equipped with measured yardage attachments to give accurate, uniform bobbin yardage, as required for two-shuttle looms.

A wide range of spindle speeds from approximately 1000 R.P.M. to 10,000 R.P.M. is obtainable.

One operator can run several machines and thus produce up to 2000 loom bobbins, or more, per hour.

NEWS ABOUT SUPPLIERS

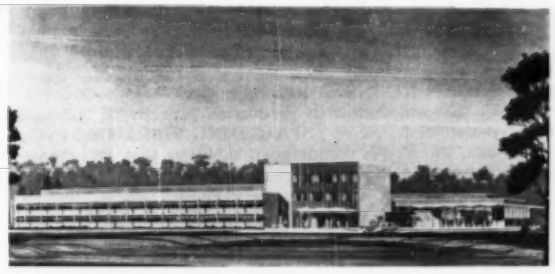
ALLIED CHEMICAL CORP., New York, N. Y.—Has named A. B. Connelly manager of the Birmingham, Ala., sales offices of its General Chemical Div. . . . **ALLIS-CHALMERS MFG. CO.,** Milwaukee, Wis.—Has named J. M. Duncan manager, Industries Group sales, Washington, D. C. B. G. Camp has been named manager of the Atlanta, Ga., office. . . . **AMERICAN MONORAIL CO.,** Euclid, Ohio—Has opened its new offices and plant at 1111 E. 200th St., Euclid. . . . **AURORA PUMP DIV., NEW YORK AIR BRAKE CO.,** Aurora, Ill.—Has named R. D. Elder division sales manager. . . . **LOUIS P. BATSON CO.,** Greenville, S. C.—Has appointed Charles Mount, Jr., representative in Georgia, Alabama, and Tennessee.

LAWRENCE KATZ, (left) president of Fidelity Machine Co., has been elected president of the Knitting Machine Manufacturing Association of the U. S. A. JAMES K. McGINLEY (center) has been appointed general sales manager of Durant Mfg. Co., Milwaukee, Wis. RALPH D. MOUNT (right) has been named general sales manager of Bassick Co., Bridgeport, Conn.

CARBIC-HOECHST CORP., New York, N. Y.—Has moved its Providence, R. I., office to 129 Quidnick St., West Warwick, R. I. . . . **COLE ENGINEERING CORP.,** Columbus, Ga.—Has announced that A. B. Carter, Inc., Gastonia, N. C., has acquired exclusive manufacturing and distribution rights on products developed by Cole. . . . **COLTON CHEMICAL CO., DIV. OF AIR REDUCTION CO., INC.,** Cleveland, Ohio—Has named Edward Rauh sales representative in western Ohio, eastern Indiana, and Michigan. . . . **COURTAULDS NORTH AMERICA, INC.,** New York, N. Y., **AND COURTAULDS NORTH AMERICA LTD.,** Montreal, Can.—Have been formed by Courtaulds Ltd. and its American and Canadian subsidiaries to expand company activities in industries outside textiles. . . . **DIXON CORP.,** Bristol, R. I.—Has named H. A. Hurt, Albemarle, N. C., to handle service calls in the South.

DOW CHEMICAL CO., Midland, Mich.—Will build a new plant to manufacture styrene-butadiene latexes at Allyn's Point, Conn. Production of latex is scheduled for early 1961. . . . **E. I. DU PONT DE NEMOURS & CO., INC.,** Wilmington, Del.—Has started construction of new production facilities at Waynesboro, Va., for manufacturing Lycra, its new elastomeric fiber. The company has also announced that a new plant will be built at Belle, W. Va., to manufacture methylamines. J. O. Graves has been named to the new position of assistant to L. S. Sinness, assistant general manager of the Textile Fibers Dept. . . . **FIRESTONE TIRE & RUBBER CO., FIRESTONE SYNTHETIC RUBBER & LATEX CO. DIV.,** Akron, Ohio—Has named E. H. Ketner latex sales manager. . . . **FORMICA CORP., SUBSIDIARY OF AMERICAN CYANAMID CO.,** Cincinnati, Ohio—Has named J. L. Hagstrom to the newly created position of sales manager, molded products. . . . **FOSTER MACHINE CO.,** Westfield, Mass.—Has completed extensive additions to its office and engineering facilities.

GENERAL ANILINE & FILM CORP., New York, N. Y. —Has named Dr. C. C. Schulze to the newly created position of assistant general manager of the Dyestuff & Chemical Div. J. W. Conlon has been named director of manufacturing of that division, and Dr. J. C. Lawler has been named plant manager of the division's plant at Rensselaer, N. Y. . . . **B. F. GOODRICH CHEMICAL CO.,** Cleveland, Ohio—Has announced that it has formed a marketing and development unit for its textile chemicals. . . . **GRESTCO DYES & CHEMICALS CO., INC.,** Brooklyn, N. Y.—Has named Andrew Scott technical sales representative. . . . **HAYSSEN MFG. CO.,** Sheboygan, Wis.—Has opened a sales-and-service center at 44 Worth St., New York, N. Y. . . . **HERCULES POWDER CO.,** Wilmington, Del.—Has announced the public dedication of two patents, Nos. 2,865,853 and 2,865,854, relating to the use of water-soluble starch ethers and water-soluble cellulose ethers in warp-sizing operations.



CHEMSTRAND RESEARCH CENTER, INC., a newly formed wholly owned subsidiary of Chemstrand Corp., is building this multimillion-dollar research center near Raleigh, N. C.

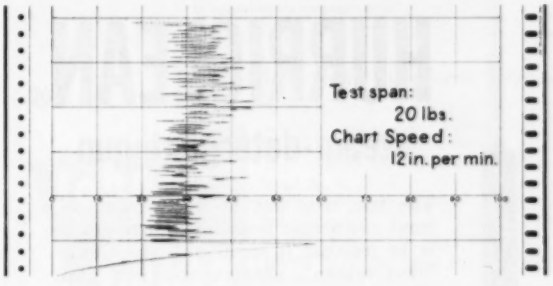
JAMES HUNTER, INC., Mauldin, S. C.—Has announced that Thomas Leyland Machine Co., Readville, Mass., has merged with it. . . . **INTERNATIONAL SALT CO., INC.,** Scranton, Pa.—Has opened a new office in Charlotte, N. C.; enlarged its New Orleans, La., office; and closed its Atlanta, Ga., and Richmond, Va., offices. P. S. Trible has been appointed to the newly created position of general sales manager. . . . **KOPPERS CO., INC.,** Pittsburgh, Pa.—Has named J. O. Howard manager of the Port Reading Plant Plastics Div. . . . **LUDELL MFG. CO.,** Milwaukee, Wis.—Has promoted David Goodyear to manager of its Product Sales Div. . . . **MARSHALL & WILLIAMS EQUIPMENT CO.,** Greenville, S. C.—Has been named representative for Appleton Machine Co., Appleton, Wis.; Industrial Air Co., Newton Upper Falls, Mass.; and Ernest Scott & Co., Inc., Fall River, Mass.

METRO-ATLANTIC, INC., Centredale, R. I.—Has named Donald Cox to the staff of its technical-service laboratories. . . . **MILES CHEMICAL CO.,** Elkhart, Ind.—Is consolidating all sales-management functions in Elkhart. . . . **MINNESOTA MINING & MFG. CO.,** St. Paul, Minn.—Has appointed J. C. Duke to the newly created position of executive vice president for sales administration and public relations. . . . **MONSANTO CHEMICAL CO.,** St. Louis, Mo.—Has bought Nitro Industrial Corp., Nitro, W. Va. The Inorganic Chemicals Div. has completed expansion of its Everett, Mass., facilities. The division has also named J. B. Weber, Jr., to the sales department, with headquarters in St. Louis. The Organic Chemicals Div. has named T. D. Crawford to its sales department, with headquarters in St. Louis. . . . **MORTON SALT CO.,** Chicago, Ill.—Has opened a new rock-salt mine at Fairport, O.

TEST TIPS
FROM THE SCOTT LABORATORY

TEST TEAR STRENGTH

Extremely rapid and accurate response of *electronic* weighing—an important feature of Scott Model CRE testing—is illustrated by this chart which for highly critical evaluation registers in essence the tensile strength of the *individual* yarns within a woven fabric. Test your textiles simply, precisely, economically with Model CRE. Write for CRE Brochure.



SCOTT TESTERS, INC. 95 Blackstone Street, Providence, R. I.

SCOTT TESTERS
THE SURE TEST . . . SCOTT!

CIRCLE 252 ON READER SERVICE CARD

DOUBLE RUB, FOUR BANK TAPE CONDENSER

Built in 48", 60", 72" widths for adaptation to all carding machines. Write for information.

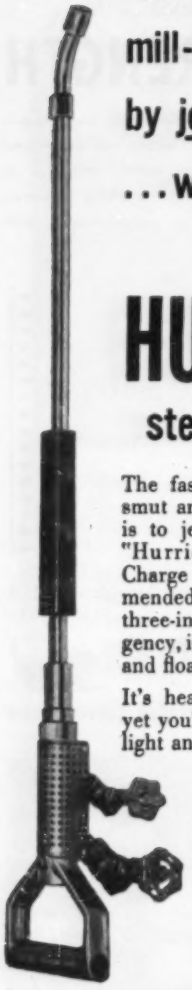
Duesberg-Bosson of America, Inc.
Main Street Jefferson, Mass. P.O. Box 25

CIRCLE 145 ON READER SERVICE CARD

NOW...

mill-wide cleaning by jet-blast ...with the new Oakite HURRICLEAN®

steam-detergent gun



The fast, new way to remove lint, oil, smut and grease from textile equipment is to jet-blast it loose with the Oakite "Hurriclean" steam-detergent gun. Charge this powerful gun with recommended Oakite detergent and you get three-in-one cleaning power: heat, detergency, impact. Then twist a valve to rinse, and float off all the loosened soil.

It's heavy-duty mechanized cleaning... yet you've never handled a unit so safe, light and easy.

SAFE Steam travels in an inner, insulated tube. Outer tube conveys the cool detergent solution. Mixing takes place at the nozzle. This keeps the gun always cool to the touch, always safe.

LIGHT Weighs a mere 6¼ lbs.

EASY A twist of the tube grip changes direction of the spray. No dragging and kinking of hose lines. Cleaning 'from under' is a cinch.

You'll find that the Oakite "Hurriclean" gun brings big savings in time and money, while doing a far better cleaning job on looms, spinning frames, tenter chains, dye kettles, slasher drums, drying cylinders and other equipment, and, of course, on floors and walls.

Ask your local Oakite man to let you try out the "Hurriclean" steam-detergent gun. Or write for details to Oakite Products, Inc., 42 Rector Street, New York 6, N. Y.

OAKITE

50 1909-1959 years' leadership in industrial cleaning

SCIENCE

NEWS ABOUT SUPPLIERS Continued

NATIONAL RING TRAVELER CO. & STERLING DIV., Pawtucket, R. I.—Has named C. L. Fitts company representative in Virginia and eastern North Carolina.

NATIONAL STARCH & CHEMICAL CORP., New York, N. Y.—Has started building two additions at the company's Alexander Research Laboratories, Plainfield, N. J. . . . **OAKITE PRODUCTS, INC.,** New York, N. Y.—Has named T. A. Rohlfsen South Pacific Coast Div. manager. . . . **ONYX OIL & CHEMICAL CO.,** Jersey City, N. J.—Has named C. W. Lee New England district manager, with headquarters in Boston, Mass. . . . **PENNSALT CHEMICALS CORP.,** Philadelphia, Pa.—Will complete the first phase of a $6-million modernization program at its Wyandotte, Mich., chlorine-and-caustic-soda facilities before the end of this year. . . . **POLYMER INDUSTRIES, INC.,** Springdale, Conn.—Is now using facilities in the new multimillion-dollar Philip Morris Research Center in Richmond, Va. The company has also announced that A. M. Hicks has been named technical representative for its Textile Div., with headquarters in Springdale. . . . **WM. POWELL CO.,** Cincinnati, Ohio—Has named H. A. Pearson sales engineer for Philadelphia, Chester, and eastern Pennsylvania.

PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.—Has opened a new regional sales office at 3272 Peachtree Road, N. E., Atlanta, Ga. D. D. Cunningham has been named regional sales manager for this office. The company has announced plans to build a new plant at Lexington, N. C. . . . **SHAWINIGAN RESINS CORP.,** Springfield, Mass.—Is building a unit that will double its production capacity of Gelvatol polyvinyl-alcohol resins. . . . **SPAULDING FIBRE CO., INC.,** Tonawanda, N. Y.—Is building an addition that will house six new laboratory units.

LOUIS ALLIS CO., Milwaukee, Wis., is building this new research and development center in Greendale, Wis. The building will double the size of the present engineering and physics laboratories.

STEIN, HALL & CO., INC., New York, N. Y.—Has elected R. B. Sammon president of its Canadian subsidiary, Stein, Hall Ltd., Toronto, Ont. . . . **SUN CHEMICAL CORP., WARWICK CHEMICAL DIV.,** New York, N. Y.—Has named T. B. Spence Southern-district sales manager and F. B. Hennessey technical sales representative. . . . **UNION CARBIDE CHEMICALS CO.,** New York, N. Y.—Has promoted L. D. Polderman to product-sales manager. R. C. Douthit and D. H. Sinner have joined the development department, South Charleston, W. Va. . . . **UNITED MERCHANTS & MANUFACTURERS, INC.,** New York, N. Y.—Has appointed Ernest St. Louis vice president of Valchem in charge of chemical manufacturing and Peter Benjamin vice president of Valchem in charge of sales.

JOHN VERDUIN MACHINE CORP., Paterson, N. J.—Has named H. W. Curtis and D. L. Lomax to its staff. Mr. Curtis will cover the New England area with headquarters in Coventry, R. I. Mr. Lomax will cover Virginia and North and South Carolina. His headquarters will be Graham, N. C. . . . **WHITIN MACHINE WORKS,** Whitinsville, Mass.—Has named N. F. Garrett general manager of the Whitinsville Div.

NEWS ABOUT MEN

John Sidney Abney has been elected president and treasurer of Abney Mills, Greenwood, S. C., succeeding the late F. E. Grier.

Nathan W. Ayers has been elected executive vice president and treasurer of Highland Cotton Mills, Inc., High Point, N. C.

John W. Broome has been named product manager for men's wear at Abbeville Mills Corp., Abbeville, S. C.

Mitchell Carlisle has been named manager of Seminole Mills, Clearwater, S. C.

Hugh W. Close has been elected president of Springs Cotton Mills, Lancaster, S. C., and Spring Mills, Inc., New York, N. Y., succeeding his father-in-law, the late Col. Elliott White Springs.

Claude Collins has been named general superintendent of the men's seamless division of Kayser-Roth Co., Inc., New York, N. Y.

J. C. Cowan, Jr., vice chairman of the board of Burlington Industries, Inc., Greensboro, N. C., has been elected president of the North Carolina Textile Manufacturers Association.

Owen K. Degler has been named quality-control superintendent of Berkshire Knitting Mills, Inc., Reading, Pa.

Charles H. Dickinson, Jr., former superintendent of Charlottesville Woolen Mills, Charlottesville, Va., has been named general manager of the mill under its new ownership, Kent Mfg. Co.

Paul D. Emery has been appointed assistant superintendent of the Riverside Div. of Dan River Mills, Inc., Danville, Va.

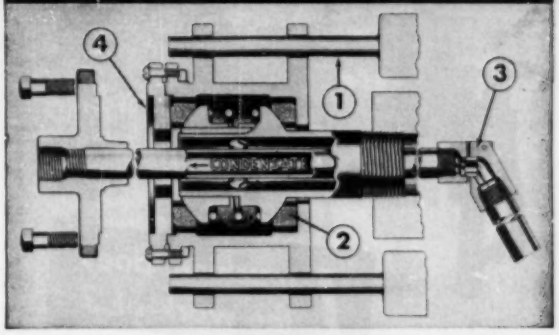
Fritz Ehrlich has been named assistant to the quality-control superintendent at Berkshire Knitting Mills, Inc., Reading, Pa.

Raymond J. Fontaine, Jr., has been named general mer-

JAMES H. BLORE has been named to the new position of director of fabric research and development for Fair-Tex Mills, Catasauqua, Pa. He will concentrate on development of new knitted fabrics from man-made fibers. From September 1958 to October 1959 he had been working on fabric development for Du Pont. Previous to that position he had been an associate editor of TEXTILE WORLD for six years.

E. A. HAMRICK, JR., (left) has been named president of the newly formed Burlington Yarn Co., Greensboro, N. C. J. T. McLOUD (center) has been named executive vice president for sales, and ARTHUR BURNET (right) has been named vice president for manufacturing.

For service on Dry Cans and 30" Slasher Cylinders



Type LJSP with Syphon Elbow

1. Support rods carry all the real weight. Sealing assembly "floats" freely inside. **2.** Seals without packing—needs no lubrication or adjusting. **3.** Syphon elbow replaces clumsy curved syphon pipe with two straight pipes, passes right through joint. **4.** Assembly plate holds parts in place when head is removed.

Johnson ROTARY PRESSURE Joints — First in the Textile Industry

Write for Catalog J-2002

Shows Johnson Joints for all needs, on dry cans, print cans, calenders, compressive shrinkage ranges, 5' and 7' cotton slashers, etc.

THE JOHNSON CORPORATION
814 Wood St., Three Rivers, Mich.
CIRCLE 253 ON READER SERVICE CARD

OUR SPECIALTY!

Our specialty is making Dary ring travelers—an item well and favorably known to the textile trade for more than half a century. Though times change, we at Dary hold to one course without deviation. We continue to serve, by pursuing our specialty.

When you need ring travelers, call on our experience to aid your choice. Consult your friendly Dary representative!

Always specify
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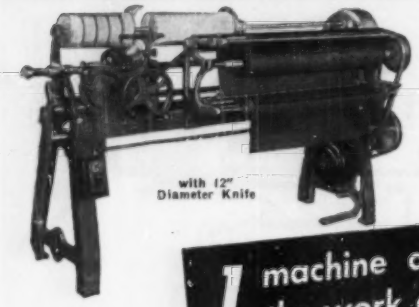
CIRCLE 147 ON READER SERVICE CARD

UTICA Combination Winding and Cutting Machine



To meet your special requirements, ask for information on Heavy Duty Model — also Utica Individual Roll Winders and Strip Cutters.

1 machine does the work of 2

THIS fast-producer has all the advantages of two machines, but uses the floor space of just one. Cuts light, medium, or heavy weight, both straight and bias fabrics. Cutter and Winder can be run at the same time. Rigidly constructed for long, trouble-free operation. Has measuring scale for cutting accurate rolls. It's safe—knife, grinding wheel, all gears and sprockets are well-guarded. Equipped with Veeder Root yardage counter. Made in 40, 45, and 55 inch width machines. Make your own bindings —as you need them—from the same material as your product—at lower cost. Write today.

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manufacture and measurement for mankind

chandise manager of the Spun Synthetics Div., American Thread Co., New York, N. Y.

Robert B. Fort, Jr., has been named plant manager of the Winnsboro, S. C., mills of U. S. Rubber Co.

Shannon M. Gamble has announced plans to retire as executive vice president of Standard-Coosa-Thatcher Co., Chattanooga, Tenn.

Thomas S. Guggenheim has been named vice president of The Adler Co., Cincinnati, Ohio.

Alvin Z. Halpern has been named a vice president and director of Glenoit Mills, Inc., New York, N. Y.

Ted M. Hampton has retired as superintendent of the Calumet Plant of Callaway Mills Co., LaGrange, Ga.

Ned E. Howell has been appointed superintendent of the woolen division of Clover Mills, Inc., Douglasville, Ga.

Robert H. Hundley, Jr., has been named general superintendent of Corlin Processing Co., Inc., Landis, N. C.

Thomas N. Ingram has been named executive vice president of the North Carolina Textile Manufacturers Association. He will retain his former duties as secretary and treasurer.

Dr. Harley Y. Jennings, retired director of research for Dan River Mills, Inc., Danville, Va., has joined the Textile Research Center of the School of Textiles, North Carolina State College.

Donald R. Jonas, executive vice president of Johnston Mills Co., Charlotte, N. C., has been named first vice president of the North Carolina Textile Manufacturers Association.

James F. King has been named secretary and comptroller of Collins & Aikman Corp., New York, N. Y.

Siegfried M. Kinziner, former plant manager of the Janesville, Wis., plant of Glenoit Mills, Inc., has been named vice president in charge of production.

STUART A. ROBINSON has been elected executive vice president of Robinson Thread Co., Inc., Worcester, Mass.

Maurice Krier, Jr., has been named administrative assistant to the executive vice president of Munsingwear, Inc., Minneapolis, Minn.

James F. Magarahan has been elected an assistant vice president of Lyman Printing & Finishing Co., New York, N. Y.

Dexie M. R. Mills has resigned as standards manager at Fulton Cotton Mills, Inc., Atlanta, Ga., and has joined Atlantic & Pacific Life Insurance Co. of America, Atlanta, as investment sales representative.

Irvin L. Payne, former superintendent of the Alabama Div., Dan River Mills, Inc., has been named asistant general superintendent of the company's gray-manufacturing operations in Danville, Va.

John W. Printz has been named president of Hayward Hosiery Co., Ipswich, Mass.

Frederic A. Soderberg, vice president of F. C. Huyck & Sons, has been named general manager of the Huyck Felt Co. Div., Rensselaer, N. Y., and Aliceville, Ala.

Joe E. Spearman has joined the Research & Development Div. of Callaway Mills Co. as product-development engineer for the company's Hillside Plant, LaGrange, Ga.

P. B. Stephens has been named manager of the Clarkdale, Ga., plant of Coats & Clark, Inc.

Walter Sturrock has been named general manager of Thies Dyeing Mills, Inc., West Warwick, R. I.

Charles L. Tarr has been named general manager of the Conover plant of Riegel Textile Corp., Newton, N. C.

W. Lane Verlenden, II, has been named vice president and assistant treasurer of Standard-Coosa-Thatcher Co., Chattanooga, Tenn.

Gordon E. Williams has been promoted to chief industrial engineer at Judson Mills, Greenville, S. C.

Frank E. Willsher has been named chairman of the board at Schlichter Jute Cordage Co., Philadelphia, Pa.

Harvey N. Younger has been appointed superintendent of boarding and dyeing processes at Hanes Hosiery Mills Co., Winston-Salem, N. C.

William B. Younger has been appointed general superintendent of Virginia Mills, Inc., Swepsonville, N. C.

Textile World

OBITUARY

Harry A. Cody, Sr., 80, former secretary and treasurer of Ripon Knitting Works, Ripon, Wis.

P. K. Dry, 71, general superintendent of Linn and Corriher Mills, Landis, N. C.

Arthur M. Gordy, 77, retired superintendent of the former Ingram Spinning Mills and Southern Spinning Mills, Nashville, Tenn.

Reginald Lee Harris, 69, chairman of the board, Roxboro Cotton Mills, Roxboro, N. C.

David H. Isreal, chairman of the board of Regal Knitwear Co., New York, N. Y.

A. F. Johnson, 90, retired textile executive, Greenville, S. C.

Henry P. Kendall, 81, chairman of the board of The Kendall Co., Boston, Mass.

Horace W. Kiser, 67, former vice preident and treasurer of Abbeville Mills Corp., Abbeville, S. C.

Richard P. Monsaert, 66, retired president and manager of the former Puritan Piece Dye Works, Paterson, N. J.

W. H. Muse, 70, former assistant manager of Erwin Mills' plants, Erwin, N. C.

James W. Pless, Sr., 87, founder and an original director of Marion Mfg. Co. and Clinchfield Mfg. Co., Marion, N. C.

Paul A. Redmond, 44, former president of Alabama Mills, Inc., and past president of Alabama Cotton Manufacturers Association, Birmingham, Ala.

Cecil Reese, 48, former general manager of Shuford Mills' plant in Cuba and of Hickory Spinners, Inc., Longview, N. C.

Robert W. Roane, 58, superintendent of Davenport Hosiery Mills, Inc., Chattanooga, Tenn.

Marshall Lamar Smith, 84, former president of Laurens Mills, Laurens, S. C.

Conrad Rudolph Wenner, 63, former superintendent of the Fayetteville, N. C., plant of Burlington Industries, Inc.

Ernest Whited, 45, assistant superintendent of the sewing and finishing division of Standard Knitting Mills, Knoxville, Tenn.

Hollis Wolstenholme, 72, former president of the former Alfred Wolstenholme & Son, worsted-yarn manufacturer, Philadelphia, Pa.

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Allied Chemical

OPPORTUNITY FOR WORSTED MILL PRODUCTION MANAGER

We are seeking, for immediate placement, an experienced, active executive to supervise our New Hampshire Worsted Mill, where we carry on extensive manufacturing of natural and synthetic utility fabrics.

This man must have a thorough technical background in the worsted system, and be intimately familiar with fully integrated Top-Making, Drawing, Spinning and Weaving Processes. A knowledge of cost accounting and paper work procedures would be advantageous.

This is a unique opportunity for the properly seasoned man who will have definite potential for becoming General Manager.

Attractive salary and incentive.

Our personnel have been notified of this advertisement. All replies will be strictly confidential.

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WANTED—EXPERIENCED Sales Representatives

to sell excellent line of Electrical Stop Motions to Knitting Trade.

RW-3024, Textile World
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Young, dynamic man with engineering or textile education. Experience in cotton and synthetics spinning and weaving for managerial and production responsibilities at one of multiplant national company's Southeastern plants. Starting salary commensurate with ability.

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POSITIONS VACANT

Knitting Mill Superintendent. Experienced in supervising manufacture of all types circular knitted fabrics, and also some knowledge of finishing. Exceptional opportunity. Salary commensurate with ability. P-2751, Textile World.

Experienced finisher of high pile fabrics. Excellent opportunity for capable man. Warren Fabrics Co. Inc., West Warren, Mass.

Wanted—Dyer. Must be thoroughly experienced in beck dyeing of piece goods containing blends of Viscose, Acetate, Nylon, Dacron. All correspondence will be kept strictly confidential. P-3148, Textile World.

SELLING OPPORTUNITY AVAILABLE

Wanted—Dyestuff salesman for Southern territory by established dyestuff company offering a complete line of colors. Dyestuff experience required; selling experience preferred. SW-3050, Textile World.

(Additional Employment advertising on p. 152)

IMPROVE PRODUCTION WITH MODERN EQUIPMENT

2—Saco Lowell 40" 2-beater single process pickers
13—Whitin 40" Model H flat top Cards, 12" coilers
45—Whitin 45" flat top Cards, 12" coilers
2—Platt 40" flat top Cards, 12" coilers
4—Whitin 9¾" Sliver Lappers, 24 & 28 ends, 1949
12—Deliveries Whitin Bl-coil drawing, 1949, 14" coil.
12—Deliveries S-P drawing, 12" coilers, M.D.
20—Frames Whitin Model B spinning, 3¼" gauge
1—Toledo Model 1001 Lap Scale, 100 lb. cap.
1—S-L 7' & 5' cylinder slasher, controls, M.D.
1—Uxbridge Model A Gentle Air slasher
1—B-C VW Warper, W/468 end VC creel
2—Allen & Entwistle HS Warpers, w/600 end creels
1—Ramsay 4-spool ribbon warper
3—Terrell Type K Bobbin Strippers, M.D.
1—Terrell Model L Quill Stripper, M.D.
2—Terrell Roving Bobbin Stripers, M.D.
4—B-C Portable LC Knot Tying mach., hand & M.D.
2—B-C Portable LL Knot Tying Machines
3—B-C Portable LS Knot Tying mach., hand & M.D.
6—Abbott 12-spdl. Radial Quillers
4—Abbott Quillers, 100-120 sp., Freq. converters
20—H&B 80-sp., rubber thread covering machines
40—Draper Model E 54" looms, M.D.
9—Draper Model X 40" looms, M.D.
24—C&K W-3, 82" looms, low roll, 4x1
20—C&K C-4, 74" looms, 4x1, 1949
2—Cloth Folders, 1 yard fold, air lifts
2—Shawmut Reed Cleaning Machines
650—Veeder-Root 3-shift reset pick counters
24—Veeder-Root 3-shift reset hank clocks, 2¾" roll.
2M—Bodden Flyers & Pressers for 8x4 Whitin
9—Million Flat Steel & Duplex heddles & Frames
1—Armstrong & 1 Sunoco Cot Buffing machines
10—Diehl transmitters, 1800 RPM, 550/3/60
3M—Loom motors; all HP, speeds & voltages
4—300-gal., SS, jacketed tanks, w/agitators
10M—lbs. NEW manila & Polyethylene rope
1—6250 lb. Toledo Printweigh Scale, 54x76 platfm.
3—Buffalo size 5 blowers, dble width, dble inlet

MACHINERY SALES CORP.
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New Bedford, Mass. Wyman 6-2271

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10-ATWOOD 2 lb. 10-B's

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24-FLETCHER tape looms

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DYE HOUSE & FINISHING

1—3' R&L T.E. Beck S.S.—60" D

1—3' R.H. T.E. Becks S.S.—50" D

1—12' S.S. Hooded Beck—42" D

1—Hussong 600 Lb. S.S. Skein Dyer

1—K.W.G. Skein Dyer—S.S.—500 Lb.

2—Rotary Venango S.S. 15 & 50 Lb.

3—S.D. Rotarys 50-100-150 Lb. Monel

2—V.V.—20 ton hydraulic calender 66" face

1—Parks & Woolson Shear—4 blade

1—Hermas Salvage Trimmer—1954

1—Wet & Dry Shrinking mach.—1956—for 80" cloth

12000—⅝" S.S. dyetex tubes

NARROW FABRICS

2—Fletcher Webbing Looms 16'4"—66 Space—1946

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7—Atwood #100 2 Lb. Headless

4—U.S. Redraws 60 Spin—Spindleless

200—Model 50 Coners—All Types

2—U.S. Vertical Redraws—1953-1955

4—Atwood 10 B's—6" Ga.—1 Lb.

2—Conditioners A&W—All Electric

3—U.S. Doublers—1 Lb.—116 Spindles

1—Fletcher Doubler—1 Lb.—92 Spindles

4—Fletcher heavy duty reelers—6 fly

2—U. S. 110 spindle doubler—20/20 spindles

6—Fletcher—208 spindle—1 lb. Marq. B.B. spindles

TRICOT

1—84" Saupe Sample

6—84" Hoffman Simplex 28 GA.

2—42" Cocker Warpers

2—21" Reiner Warpers—SW 24

24—21 x 42 Aluminum Beams

500—21 x 21 Aluminum Beams

4—Reiner 168"—3 Bar Positive Let-Off

WEAVING

10—C-4 72" Looms 4x1—Multipliers

1—Cocker 54¼" Direct Warper

2—S.E. 93" Warpers—D.Y. Mag.

40—Heads Whitin-Schweiter Quillers

19—W3AC Looms—C&K—84"

1—Sipp Eastwood—115" Dy Warper Mag.

1—Johnson—72" 7 can slasher

MISC.

1—48" S.S. Fletcher Ext. Factory Rebuilt

2—Obermier Top Dye Kettles S.S.

1—Whitin RD 5-52 Spin.—6" Ga.

1—Knowles Continuous Skein Dryer

2—1954 Brownell Twisters—2-32 & 2-64 Spindles—9" Ga. Elec. Knockoffs

3—Granite Tubers—15-20 lb.—20 spindle 1946 models—Motor.

1—Gaston County Autoclave — 1955 — S.S. for Sweater Presetting

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3 large, complete cotton mills formerly owned by

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Including:

11—Opening and Cleaning Lines 1953–1957
300—Platt Cards—1946–1948
70,000—Spindles, including Saco-Lowell and Whitin Long Draft Spinning Frames, Tape Drive—1952
725—Draper X2 Looms 40"–42" 1945–50
150—C&K C2 Box Looms
2—Barber-Coleman spoolers, type C, 198 large pockets
6—Hibbert & Uxbridge Slashers—1951
1—Abington Stainless 2 beam dye unit 1957

Yarn Dyeing, Cloth Finishing, Indigo Dye Rangers, Bleaching, Laboratory Equipment, Air Compressors, Humidification Systems, Nappers, Compressive Shrinker Ranger, Machine Shop Equipment.

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• APPRAISALS • PURCHASE AND SALE TEXTILE MACHINERY • LIQUIDATION OF MILL PROPERTIES •

WE OFFER FOR SALE . . .

20—D & B 40" Cotton Cards . . . $350 each.

12—C&K 60" looms, model C2, multipliers, leno motions. 25 harness, 4 x 1, motors, etc.
42—Section beams, 54¼" x 28"
2—S.S. tanks 100 & 150 gal.
1—Foster #102 winder, 100 spindles, 50 for paper cones and 50 for tubes
32—C&K 56" S.3 looms, M.D., W/Dobby
1—P & W 3-Blade Shear Complete
1—Barber Colman 56" LL Knotter
1—Knowles, 1953, Drum Type H.S. Dresser W/Creel
1—Roy Napper Grinder 100"
1—P & W 72" x 36" Semi Decater, 1947
1—Sargent Bagging Machine
12—Waste End Blowers—110v.
2—C&K 82" W-3 Automatic Looms
2—Collins Fancy Twisters, 200 spdls.
15—Spindles Whitin Schweiter Winder
2—Scutchers 72" and 78" complete
2—U. S. Redraws—1951
3—Tollhurst 60", S.S. Extractors
1—Gessner Vacuum Extractor, Folder, 76", Adjustable, M.D.
1—Terrell Bobbin stripper, M.D.
1—HERMAS 4 Blade Vertical Shear complete with Flock System, motors, blower, rolling device, 1948
1—D & F Fearnaught Picker with feed
2—Cloth Numbering Machines
100,000 Filling Bobbins
1—Allen Hi-speed Warper, M.D.
2—H & W yarn conditioning ovens
8—Whitin Model B 200 spindle twisters, double roll 4" gauge M.D.
2—Hunter Fulling Mills 26E
1—8 Ball Creel
1—Selvege Winder, M.D.
1—Toledo Cloth weighing and measuring Scale.
2—G.E. Motors, A.C.A. 5-15 H.P.

Large quantity new & used parts for S-3 looms

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SEND US OLD PLATE FOR QUOTATION
PUT YOUR PIN TENTERS IN TIP-TOP CONDITION
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All Diameters Any Length
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GENERAL SUPERINTENDENT WANTED

WOOLEN-SYSTEM SPINNING MILL, RHODE ISLAND

Must have background of supervisory experience in this type of mill and a thorough knowledge of all woolen spinning machinery.

Duties will include responsibility for yarn production, quality control, plant and machinery maintenance and installation of machinery. Also will be in charge of labor relations, and purchasing agent for all supplies exclusive of raw stock.

Opportunity with a growing organization. Excellent salary and incentives. Replies will be kept strictly confidential.

P-3159, Textile World
Class. Adv. Div.,
P. O. Box 12, N. Y. 36, N. Y.

POSITIONS WANTED
(Continued from page 150)

Position wanted as plant manager of completely integrated carpet and rug manufacturing plant with modern progressive organization. Textile graduate with excellent qualifications. Reply PY-2592, Textile World.

Overseer of Weaving now employed. Desire a change now or by first of year. 15 yrs. as Overseer & Supervisor. High School Education, experience on all kinds of synthetic yarns, cottons, fancy and plain weaves. On drapers, S. 6, W. 3, & C 4's. Can go any place. PW-2917, Textile World.

Textile machinery designer, Textile Institute graduate, pattern and machinery, also close tolerances, can supervise erection, technical experience from raw stock to twisted fang yarns, wool cotton synthetics seeks responsible position with consulting firm or constructor in U. S. or Latin America—several languages. Confidential. PW-3015, Textile World.

Dynamic young man—jacquard designing expert, 5 years experience as technical director of leading South American weaving plant—desires responsible position with commensurate salary—will travel. PW-3155, Textile World.

CONTRACT WORK WANTED

24 W-2 C & K Convertible Looms available for commission weaving, P & P, or automatic work. CWW-2952, Textile World.

WANTED

Anything within reason that is wanted in the field served by Textile World can be quickly located through bringing it to the attention of thousands of men whose interest is assured because this is the business paper they read.

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WINDING, WEAVING, ETC.

3—Lindsey-Hyde Collapsible Skein Reelers
30—Spindles Schweiter Filling Winders Type MS
36—Spindles Whitin-Schweiter Filling Winders complete with Whitin Model A—Year 1954 Hopper and Rods for automatic Winding
8—C&K W3—Convertible 82" Automatic Looms—25 Harness
40—C&K W2—4 x 1 Looms 82"—20 Harness
6—C&K 4 x 4 Box Looms 48" Wide
75—Loom Beams for 82" Looms
25—Loom Beams for 92" Looms
18—Pairs 30" Allen Loom Beam Flanges
50—Pairs 30" Mossberg Loom Beam Flanges
100—Pairs 34" Mossberg Loom Beam Flanges—Quantity of 82" Harnesses—Quantity of 92" Harnesses
250,000—New 14½" Flat Steel Heddles Worsted eye
100,000—Automatic 3 Ring Loom Bobbins
50—Walton self-contained Humidifiers—complete with motors—Quantity of Fiber Boxes and 4 Wheel All Steel Yarn Trucks
2—Abbott Filling Winders 1948—45 Spindles with Hoppers.

CARDING

2—Davis & Furber 3 Cyclinder sets all iron Woolen Card, 48" Wide x 60" Diameter, complete with Bramwell Feeders, metallic Breasts, Broadband intermediate Feeds, Peraltas, with D&F Double Rub Tape Condensors—96 Ends and including Waste-End blowers.
Large lot of New Card repair parts
Large lot of 48" Wide Metallic Rolls
2—Bramwell 60" Card Feeds with Square type weigh Pan
2—Nub Boxes 48"
1—60" Wide solid grinding cyclinder—for burnishing
2—Duesberg-Bosson 48" Peraltas—Complete
4—Duesberg 48" Spare Rolls—with Bearings
1—Set D&F 96 End Deviding Rolls—for 60" Card
1—Set D&F 120 End Deviding Rolls—for 60" Card
1—Set D&F—72 End Deviding Rolls for 48" Card
1—Floor Grinding Stand—48"
1—Howard Bros. Card Clothing Tension and Winding machine complete with gearhead motor.
1—Proctor & Schwartz—Sample Garnett 27" x 30"
1—Sample Card
2—Proctor & Schwartz 48"—No. 535 Card Feeds with motors
3—Proctor & Schwartz 60" Card Feeds No. 535 with Motor
3—Davis & Furber Year 1945 Double Rub Tape Condensors taking off 80 Ends—60"
2—Toledo Fan Dial Grain Scales—for card or spinning room
25,000 Spinning Frame Bobbins, Black Enamel with Shields—Model E Frame, Barrel is 2" in Diam. for reduced top Spindle, 20,000 Twister Bobbins Black enamel with shields, for Whitin
Model BB Twisters—9" Traverse—Samples on request.

DRESSING & SPOOLING

1—Entwistele Hack Stand with measuring device and Electric stop motions
1—D&F—82" Heavy Duty Pinless Dressing Reel
2—Whitin Solid Drum Hi-Speed Reels complete with 516 End Magazine Creel and complete with Beamers and all motors and controls
3—Warp Compressing Spoolers 48" Wide—40 Ends.
4—Warp Compressing Worsted Spoolers 40"—40 Ends, predetermined yardage counter.
1—Foster Winder 8 Spindles for Wood Cones—8 For Wood Tubes-Model 112 complete with motor and drive.
3—Johnson & Bassett and D&F Jack Spoolers

MIXING & PICKING

1—D&F 48" Picking Shredder, 12 Bar Ball Bearing—Year 1949
1—Curtis & Marble 6 Bar Mixing Picker—48" 2 Fluted 2 Cockspur Rolls
1—Davis & Furber 36" Mixing Picker 6 Bar
1—Proctor & Schwartz Super Picker 8 Bar—48"—Year 1950
1—D&F Fearnaught Picker 48"
1—Proctor & Schwartz 60" x 30" Shredder—Ball Bearing
2—Dodge Rag Pickers BB Cyclinders 20" x 30"
1—Proctor & Schwartz Rag Picker Long Feed Table BB Cyl. 20" x 30"
2—Sargent Motorized Bagging Machines
1—Sargent 6 Ft. Cone Duster
2—Proctor & Schwartz Ceiling Condens. Single Drum
1—Bramwell 64" Picker Feed—Extended Apron

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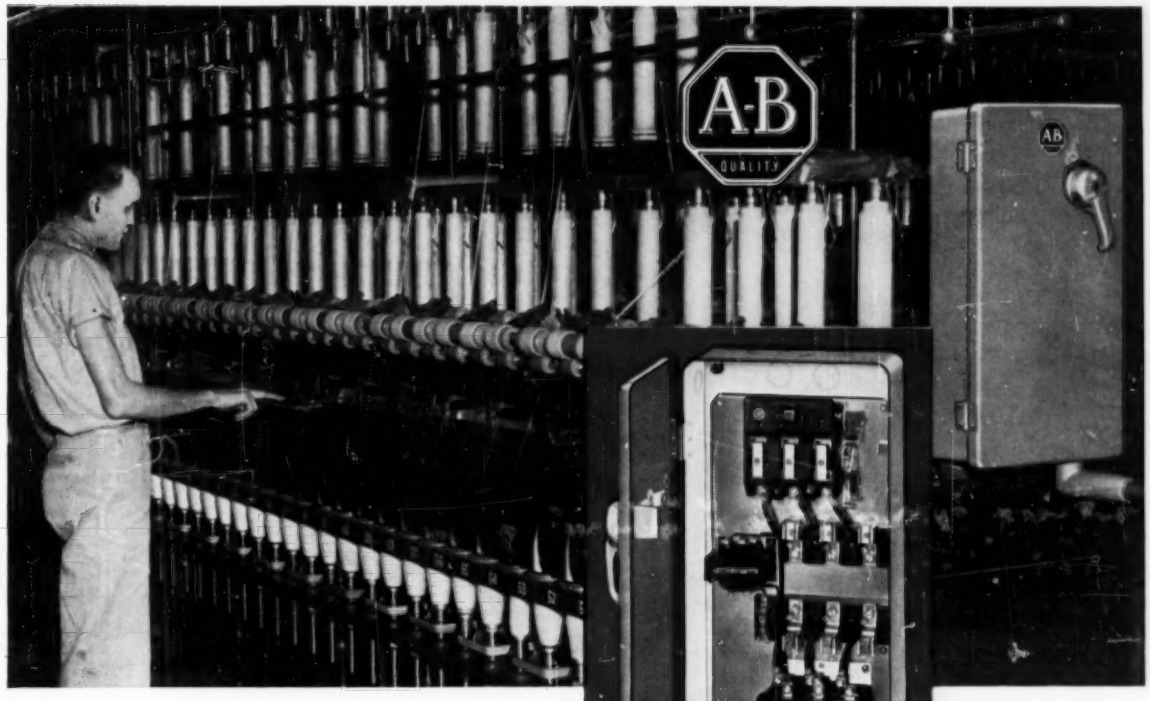

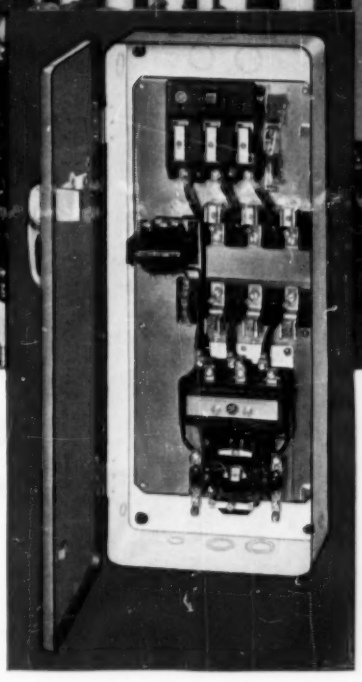

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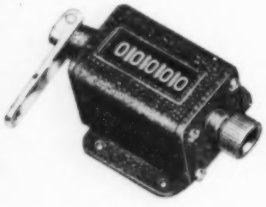
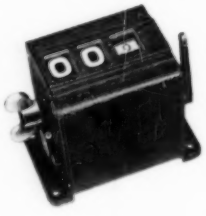
High Speed Reset Double Wheel Counter runs at speeds up to 6,000 rpm or 8,000 cpm.

Resets to zero with finger-flick. Features eye-level reading.



Small Reset Counters

Used on a wide variety of textile machines, including breakers, winders, marking machines, knitting machines and bobbin strippers. Revolution or ratchet types, for speed up to 1,000 counts per minute.



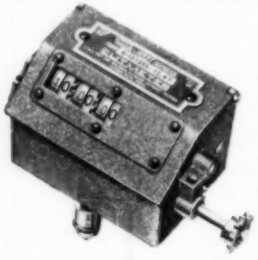
Hosiery Dozens Counter

Used in inspection or on knitting machines. Small figures show single-stocking count. Large figures indicate dozens of pairs up to 100. Hand, foot or machine actuated.

Reset Magnetic Counters

Base mounted or panel mounted. Ruggedly built for speeds up to 1,000 counts per minute. Knob or lock-key reset. Other models for speeds up to 3,000 counts per minute.

Widely used for remote indication.



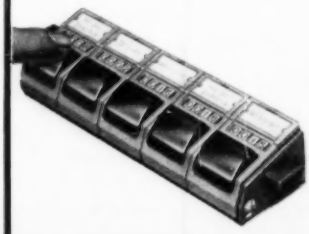
Loom Cut Meters

AND PREDETERMINING COUNTERS:

Cut Meters are predetermining counters for looms, for controlling lengths of cloth woven, without cut marks . . . and without over-runs and shortages. Also available are High Speed Predetermining Counters, both geared and ratchet types, to count any preset number of revolutions, strokes, pieces, lengths.

Count/Pak

The new Veeder-Root Count/Pak — an economical device for high velocity, noncontact counting. Ideal for use on bobbin strippers. Speeds up to 2,500 counts per minute with absolute accuracy. Features include a transistorized circuit with photoelectric sensing system, rugged and reliable construction and Veeder-Root instant reset, high speed electric counter for dependability and long life.



Vary-Tally

This modern hand-operated counter, made only by Veeder-Root, is arranged compactly on stands in tiers. Easily portable, it is ideal for order, stock, inventory control, sales and market analysis, payroll denomination, estimates, traffic control and product inspection. Can be supplied in any of 67 combinations up to 6 tiers high and 12 units wide. Entire row of counters is reset to zero with a turn of one knob.

Veeder-Root INC.

Hartford 2, Connecticut

The Name that Counts

Hartford, Conn. • Greenville, S. C. • Altoona, Pa. • Chicago • New York • Los Angeles

San Francisco • Montreal • Sales Branches, Offices and Agents in Other Principal Cities